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ORIGINAL COMMUNICATIONS.

KOCH'S TREATMENT OF TUBERCULOSIS.*

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GENTLEMEN: In compliance with the decision of his Excellency, Governor James A. Beaver; his Honor, Mayor Fitler, and the Faculty of the Medico-Chirurgical College of Philadelphia, given at a special meeting held November 19, 1890, that I should visit Berlin to investigate Koch's treatment, I respectfully submit that I left New York November 22d. In Paris, December 2d, I visited Pasteur, who expressed himself very favorably as to the possibilities of Koch's discovery, though guarded in his opinion of it as a curative agent.

Proceeding immediately to Berlin, I got easy access to Professor Koch, who, in addition to the satisfaction of seeing an old pupil, gave special consideration to my credentials from the Faculty of the Medico-Chirurgical College, the Governor of Pennsylvania, and the Mayor of Philadelphia. Very reserved in the application of his discovery, but confident of its ultimate success, he immediately promised a supply of lymph, and offered all possible facilities for special observation of the cases treated in the Hospital of Berlin.

Dr. George Cornet, who was among the first to apply Koch's lymph to the treatment of

human tuberculosis, also placed his public and private clinics at my disposal.

Koch's discovery consists in a liquid styled "lymph," of a brown color. Its exact composition is known by the discoverer, Professor Koch; his son-in-law, Dr. Pfuhl, and an intimate friend, Dr. Libbertz. They are bound by the German Government to keep the composition a secret, the State having relieved them of any possible blame for so doing. The State has intrusted to them alone the permission of preparing the lymph.

To use the lymph for the treatment of tuberculosis it is dissolved in water, so that, as a rule, the first dose given a patient is 1 milligramme of the lymph. This is given in the form of hypodermic injection by means of a sterilized hypodermic syringe, generally in the region of the spinal column.

The pure lymph keeps indefinitely, but, once dissolved, it soon becomes turbid from the development of micro-organisms; hence, Koch advises that the water used be a 2-per-cent. solution of carbolic acid, or, if pure water be used, the liquid to be injected should be sterilized by boiling previous to its being used.

The forms of tuberculosis to be treated must be divided into two great classes:—

1. Tuberculosis of the skin and surgical tuberculosis.

2. Pulmonary tuberculosis.

In all cases of tuberculosis the remedy acts by creating a violent inflammatory process around the tuberculous tissue. This inflammation or reaction takes place after each injection of the lymph, and continues to take place until all the tuberculous tissue has been destroyed. The patient then reacts no longer,

* Report of Dr. Ernest Laplace to his Excellency, Governor James A. Beaver; his Honor, Mayor Edwin H. Fitler, and the Faculty of the Medico-Chirurgical College.

even under largely-increased doses; that is, 5 centigrammes, or even as much as 5 decigrammes of lymph. A patient who does not react after any injection, even one as strong as 5 centigrammes, is said to be free from any tuberculosis. A patient who ceases to react is likewise said to have, through the constant reaction, become free from his tuberculous condition. With these general considerations, the following is the result of the treatment in lupus and surgical tuberculosis.

From three to eight hours after receiving a sufficient dose a lupus will redden, swell, and begin to secrete a thick serum. Fever rises to 39° C., or even as high as 41° C. in some cases, and will last from eight to twelve hours, when the temperature gradually sinks to below normal, sometimes as low as 36° C. When the reaction is very violent after one day's interval, the same dose is again given, and the dose is increased only when the reaction ceases to be as violent. Gradually, during the course of treatment, the lupus, after thus oozing continuously, begins to cicatrize, and, by the time the patient ceases to react under increased doses of lymph, there exists a perfectly smooth surface where formerly an indolent tuberculous ulceration existed.

In tuberculous affections of joints these show the reaction by swelling, and, as a result, pain. The tuberculous tissue, being deep, cannot eliminate itself as promptly as in the case of skin tuberculosis; hence the greater tediousness. Fistulæ and open tuberculous abscesses show increased secretion, and finally close after the elimination of the tuberculous surfaces.

In tuberculosis of bone, nothing short of the surgical removal of the sequestra can eliminate the parts acted upon by the lymph.

In all cases the reaction consists in an apparently chemical union of the lymph with the tuberculous cells, resulting in a violent congestion or even inflammation of the neighboring parts. Tuberculous cells seem to be the only ones thus acted upon. This fact must be borne in mind to thoroughly understand the conditions of treatment in the second great class of cases; that is, pulmonary tuberculosis. Only such cases as are in the incipient stage are selected for treatment. In these the initial dose is always 1 milligramme. The patient reacts exactly in the same way as in other forms of tuberculosis, except that, owing to the inflammation, which must of necessity take place

in the lungs, the respiration is much more labored. Inasmuch as it is not always possible to diagnose the presence of small tubercles when they are disseminated, the danger of the treatment becomes apparent from the inflammation which will follow wherever tubercles exist, sometimes leaving not enough lung capacity to supply the needs of life; hence the fatal cases reported.

Furthermore, the lung, not being able to rid itself of the tuberculous material as easily as a superficial tuberculosis, it follows that even after the cessation of reaction, when the case ought to be considered as cured, the physical signs remain almost unchanged by auscultation and percussion, as it would require a very long time for such tissue to be resorbed. In a case of tuberculosis of the lungs, under the care of Dr. Cornet, the patient, aged 27, reacted, at first violently, under a dose of 1 milligramme, and in one month of treatment did not react under a dose of 1 gramme of the pure lymph. In these cases, notwithstanding the fever that necessarily accompanies the reaction, the patients, as a rule, retain their appetite and increase in weight. Koch has determined that the treatment does not destroy the bacillus, the seeds of the disease. What is destroyed is that which has developed from the tissues under the irritation of the bacillus. If the remedy only did this, Koch's object would not be reached. There is one means left for curing the tuberculous process. This is that the lymph should so act upon the system as to render it unsuited to let the bacilli of tuberculosis develop in it; in other words, Koch hopes that the remedy will confer immunity against tuberculosis in man, as he says it does in the guinea-pig.

Professor Sonnenburg, under the direction of Koch, has applied surgical procedures to the treatment of cavities in the lungs, by resecting the ribs and scraping the cavity, then establishing drainage. The case is further treated by the lymph injections.

So far, there are no cases, or, at least, a sufficient number, to establish that immunity is conferred. Several cases of apparently-cured lupus have returned after a week's cessation of treatment; and, as for the apparently-cured cases of other forms of tuberculosis, it takes a longer time for a recurrence to attract attention.

As to the evil effect of the lymph, a collapse

from even a dose of 1 milligramme has sometimes taken place, though no death has resulted in that condition. Patients have always been restored by the ordinary stimulants. The most dreaded after-effect, and the one upon which the French lay the most stress, is the possible constant irritation of the kidneys by the lymph, leaving these organs in a permanently-impaired condition. Albuminuria and hæmaturia have not unfrequently been noticed. Whether this was due to the mere irritation by the lymph, or to a local reaction in the kidneys and the bladder because of the unsuspected existence of tubercles in these organs, is, of course, impossible to decide.

The contra-indications to treatment are, therefore, those lesions which, when undergoing the reaction, would directly or indirectly endanger life. They are, principally:—

1. Extensive disease of the larynx.
2. Miliary tuberculosis or very extensive tuberculosis of the lungs.
3. Tubercular meningitis.

Although there have been, by this time, many thousand cases already treated, it will be apparent, from the above, that the greatest difficulty exists in forming even the slightest idea as to the number of true cures, if any. Of improvements there can be no doubt, but, since tuberculosis is such a slow process, it is manifest that at least two years are required to ascertain positively whether the patient, who, after a course of treatment for any form of tuberculosis, has to day ceased to react, has attained that immunity without which he is not to be called cured of tuberculosis.

In a few cases a rapid development of tuberculosis has occurred in patients who have been treated with the "lymph," and the question has arisen whether the inflammatory reaction had not provoked a migration of tubercle bacilli from the original focus of disease to new localities in the lungs, and, developing there, formed separate and rapidly-developing foci of disease. Whether it be really the case, or whether unsuspected tubercles already existed in other parts than where diagnosed, must remain unsettled.

As a summary of the present status of Koch's new discovery, we conclude that, in our opinion: 1. This discovery marks a distinct epoch in the history of therapeutics. Contrary to our ideas of the physiological action of drugs, this substance acts solely when tuber-

culous tissue exists in the body. It thus exercises a specific and selective action. And this is the more admirable, as we have all reasons to surmise that the lymph is directly or indirectly the result of cultures of the bacillus tuberculosis.

2. It is, therefore, a valuable means of diagnosis as to even the unsuspected existence of tuberculosis in the body.

3. Under its continued action tuberculous tissues are destroyed, and, when possible, are cast off by sloughing.

4. No case of permanent cure has, to our knowledge, been positively recorded.

5. The large amount of clinical experience already existing warrants the further trial and careful observation of the remedy in tuberculous cases.

6. Even should the future prove the lymph unsuited to permanently cure tuberculosis, the discovery will still remain an index for future researches in the domain of scientific therapeutics.

Returning to Paris, I had the honor of submitting to Pasteur the results of my observations in Berlin, as above described. The illustrious scientist was more than delighted at this, the first reliable and impartial account he had had of the doings in the German capital. In view of our past friendship he expressed himself as interested in the progress of our Medico Chirurgical College.

Professor Koch has favored your representative with two bottles of lymph, of 5 grammes each, for our use in the Philadelphia Hospitals, and would be pleased to obtain the results of the treatment.

In closing this report, congratulations are due to the Faculty of the Medico Chirurgical College for their progressive spirit, recognizing, as they did, at such an early date, the importance of taking early steps in investigating this epoch-making discovery in the history of medicine. Your representative owes additional thanks to those members who procured commissions for him, from the Governor of Pennsylvania and the Mayor of Philadelphia, which documents materially helped, by adding the weight of civil authorities to that of the Faculty.

It now remains to give my personal thanks to his Excellency, Governor James A. Beaver; his Honor, Mayor Fitler, and to this Faculty, for the honor of their confidence and their

liberality, and to trust that the fruits of their action in this matter may prove to the continued advancement and prosperity of the State, City, and the Medico-Chirurgical College. Respectfully submitted,

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THE PHYSIOLOGICAL AND THERAPEUTICAL ACTION OF COTO-BARK.

By JOHN V. SHOEMAKER, A.M., M.D.

COTO-BARK first appeared in the London market in 1873. It was introduced under the names of coto-coto, quina-coto, or china coto bark. The latter terms are apt to be misleading, since the substance bears no botanical, physiological, or therapeutical relation to cinchona. It was first brought into the United States by Messrs. Parke, Davis & Co., of Detroit, Michigan. In February, 1874, the first sample reached Germany. It had been sent by a correspondent in Bolivia to the wholesale drug-house of Rudolph Martens, of Hamburg. The following information accompanied the sample: "The bark is from the so called missions in the interior of Bolivia, where cinchona-bark is also obtained. It is recommended in the form of a powder or an alcoholic extract as a remedy against diarrhoea, colic, neuralgic toothache; also, in a tincture form, against rheumatism and gout." Five pounds of the bark were sent for examination to Dr. G. C. Wittstein, of Munich, by whom the first chemical examination was made. The pharmacological investigation was confided to Prof. C. Harz, while a series of clinical experiments were undertaken by Professor v. Gietl in the General Hospital of Munich. The bark is received in the form of flat or curved pieces, a foot or more in length, about $\frac{3}{4}$ inch broad and $\frac{1}{2}$ to $\frac{3}{4}$ inch thick. Externally, it is of a cinnamon brown color, but when broken it appears studded with numerous scattered, golden-yellow spots. Its fracture is irregular. The fracture of the outer bark is granular and rather short, resembling that of the cocoa-nut; the inner bark is coarse-fibred, tenacious, and has an uneven and jagged fracture. The outer side is rather flat, without any bark cells or corky formation; it resembles somewhat the bark of a moderately thick beech-bough, and shows in isolated patches the perished epiderm. It has an aromatic odor, which has been likened

to that of cardamom, camphor, cajeput-oil, or cinnamon. The odor is more perceptible when the bark is bruised. The powder is very irritant to the Schneiderian mucous membrane. The taste is aromatic, sharp, slightly bitter, but not astringent or mucilaginous. Burkhart states that powdered coto bark, when applied to the tongue, causes a sharp, biting sensation, which is followed by burning pain. He also found it irritant to the mucous membrane of the stomach. When swallowed in doses of $\frac{1}{2}$ to 1 gramme ($7\frac{1}{2}$ to 15 grains), it caused a continued feeling of warmth or even pain in the stomach, eructations, nausea, and in some cases vomiting. Applied to the unbroken skin, it causes heat and redness. It proved decidedly stimulant to ulcerated surfaces, increasing hyperæmia and suppuration.

A circumstantial description of the microscopical appearance of the bark has been published by Prof. C. Harz, and may be found by the English reader in the *Pharmaceutical Journal and Transactions* for October 16, 1875, translated from the *Archiv der Pharmacie*, vol. iv, p. 214.

The botanical origin of coto remains still in doubt. No leaves, flowers, or fruit have yet been obtained; so that the question cannot be definitely settled. Martens considered that it belonged to the natural order Rubiaceæ, genus *Cinchona*. In this, however, he was probably deceived, either by reason of the territory of which the plant is said to be a native, or, as has been suggested,* because a plant known in Brazil as the coto-coto, and used in that country as a remedy for rheumatism, has been classified by Martens as *Palicourea densiflora*, and is a member of the natural order Rubiaceæ. But it is uncertain whether the coto-coto of Brazil is identical with the coto brought from Bolivia. From a consideration of the chemical composition of the bark, as well as from its physiological and therapeutical action, Wittstein thought it improbable that the coto is related to the cinchona. He suspected that it belonged either to the Lauraceæ or Terebinthinæ. Laborde, who published a thesis in Paris in 1886 upon coto bark, devoted special attention to its botanical relation, and came to the conclusion that it belonged to the Lauraceæ. The same was the opinion of Hüsemann. Again, from its warm, resinous taste and smell, and

* *Pharmaceutical Journal and Transactions*, October 16, 1875.

from its therapeutical action, other observers have classed it under the Piperaceæ, and with these Dr. Frömmüller is disposed to agree. By our National Dispensatory (Philadelphia, 1886) it is described as belonging to the Lauraceæ.

The first chemical examination of coto-bark was made by Dr. Wittstein. He determined the presence of a pale-yellow essential oil, lighter than water, having a strong, aromatic odor, a pungent, aromatic taste, bearing some resemblance to that of peppermint; a volatile alkaloid, having an odor similar to that of propylamine or trimethylamine; a yellowish-brown, soft resin of aromatic odor; a hard, brittle resin of darker brown color; starch, sugar, gum; tannic, formic, butyric and acetic acids, and oxalate of calcium. In the following year, 1875, the chemistry of coto was further studied by Julius Jobst, of Stuttgart, who succeeded in isolating the active principle, a crystallizable substance, which he named cotoïne. This body is obtained in the following manner: * An ethereal extract is first prepared from the powdered bark. The extract is treated with warm benzine, and the mixture allowed to stand until it has become clear. The clear liquid yields cotoïne in crystals on spontaneous evaporation. The oily, resinous residue contains considerable cotoïne. This may be collected by boiling with milk of lime and adding hydrochloric acid to the solution. After twenty-four hours the clear liquid will be studded with large, glistening, laminated crystals of cotoïne. These are of a pale-yellow color, and have some resemblance to commercial gallic acid. The formula for cotoïne is given by Jobst and Hesse as $C_{22}H_{18}O_6$. Cotoïne is but slightly soluble in cold water. It is soluble in hot water, alcohol, ether, chloroform, bisulphide of carbon, benzol, and acetone. It is insoluble, or nearly so, in petroleum and benzine. It dissolves in alkaline solutions with a clear, yellow color. It is insoluble in the mineral acids. It is precipitated by hydrochloric acid, with a pure, yellow color. Nitric acid strikes a blood-red color with cotoïne, sulphuric acid a brownish yellow, while a dilute solution of cotoïne is turned black by ferric chloride. Cotoïne fuses at about 130° C. (266° F.). Other, though feebler, active principles were also extracted by Jobst and Hesse from coto-bark: leucotin, $C_{21}H_{20}O_6$;

oxyleucotin, $C_{21}H_{20}O_7$; and hydrocotin, $C_{22}H_{20}O_6$. It early became evident that bark from different plants was sent into the market under the name of coto. The second specimen received by Jobst presented a notably different appearance from that of the first, which he had recently analyzed. It has since been customary to designate the first sample as coto verum, or true coto; while the second has been termed paracoto. It is probable that they are obtained from allied species, since their chemical composition and therapeutic effects are similar. The gross appearance of the paracoto, however, differs considerably from that of the true coto bark. The former is marked externally by deep, whitish furrows. Powdered paracoto bark has a resinous, aromatic odor, suggestive of, but much weaker than, that of coto. It is not irritant to the mucous membrane of the tongue or nose, but is almost indifferent. A sharp, stimulant effect is entirely absent. It is unirritant to the integument, or even to abraded or ulcerated surfaces. A tincture made with 1 part of paracoto to 8 of alcohol possesses simply the smell of alcohol; but a corresponding preparation of coto has a specific balsamic odor. Both coto and paracoto have been brought into the United States. The latter has been probably more widely used in this country. In 1876 Jobst announced the discovery of a distinctive active principle in the paracoto-bark. This principle he termed paracotoïne. Its composition, physiological and therapeutical properties are analogous to those of cotoïne. Its behavior to reagents, however, is altogether different. Paracotoïne is of a bluish color. It is slightly soluble in boiling water, cold alcohol, benzine, light petroleum, and potash or soda solutions. It is insoluble in ammonia, soluble in boiling alcohol, chloroform, concentrated solutions of sulphuric acid and nitric acid, and especially ether. It is likewise soluble in equal parts of glycerin and water. Its crystalline masses are less well defined than those of cotoïne. It is also distinguished from the latter in not being reddened by nitric acid or blackened by ferric chloride. The formula of paracotoïne is $C_{19}H_{12}O_6$.

Other constituents of paracoto-bark are: leucotin, oxyleucotin, hydrocotin, dibenzoyl-hydrocotoin, ethereal oils, and a resin. Piperonylic acid, $C_8H_6O_4$, is also present in both coto and paracoto. The authors to whom

* United States Dispensatory.

we are most indebted for a knowledge of the physiological action of the coto preparations are Burkhart, Pribram, Eloy, Petrone, and, above all, Albertoni. Dr. Burkhart was the first, in order of time, to publish his researches. In rabbits Burkhart could perceive no results from the administration of cotoïne. Jobst testifies to the same effect, as he found that the subcutaneous injection of 1 gramme ($15\frac{1}{2}$ grains) produced, in rabbits, only local symptoms. Coto stimulates the salivary secretion. Burkhart states that paracoto has no influence upon the salivary glands, but that the sialogogue action of coto is easily apparent. The tincture of paracoto gave rise to a rather sharp sensation upon the tongue, and the secretion of saliva was slightly excited, but the effect was neither so decided nor so continuous as that produced by the tincture of coto. The odor of paracotoïne is weak, and not at all stimulant, being very different in this respect from that of cotoïne. Paracotoïne is indifferent to the organs of taste, even when ulcerated surfaces are touched, on account of its insolubility. Rabbits were subjected to a series of hypodermic injections of paracotoïne. At first, 1 decigramme ($1\frac{1}{2}$ grains) was used at a dose, and the quantity was subsequently increased to 2, 3, and 5 decigrammes, and, finally, to 1 gramme. The results were entirely negative. The normal physiological condition remained unaltered. The pupils were uninfluenced, and the same was the case with the bodily temperature, appetite, and bowels. When five or six powders of .05 to 0.1 gramme ($\frac{3}{4}$ to $1\frac{1}{2}$ grains) of paracotoïne were administered to healthy men, in the course of a day no nausea or vomiting was produced. The only result was inactivity of the bowels or actual constipation. Paracotoïne may be detected in the urine in from four to six hours after administration by the mouth. Cotoïne is found in the urine in from seven to ten hours after ingestion. Burkhart, and subsequently Pribram, state that cotoïne appears to lessen the amount of indican excreted in the urine. Burkhart thinks that the chief action of coto and paracoto is stimulation of the inhibitory nerves of the bowel. Fronmüller denies that they have any influence upon the peristaltic movements, but asserts that cotoïne checks the perspiratory function of the skin. Eloy, operating on small rabbits of an average weight of 200 to 300 grammes ($6\frac{1}{2}$ to $9\frac{1}{2}$ ounces), found that they could

take, with impunity, 1 to 2 grammes of cotoïne. According to Pribram, cotoïne checks fermentative and putrefactive processes. He remarks that it delays the decomposition of the pancreas, the souring and the curdling of milk.

In 1883 Prof. Pietro Albertoni published the results of his admirable researches upon the action of coto-bark. Yet, as far as I am aware, his interesting and important paper has never been reproduced in the English language. A concise summary of its contents, therefore, will be, I conceive, eminently proper in this connection.

In healthy men, 10 to 20 centigrammes ($1\frac{1}{2}$ to 3 grains) of cotoïne, given several times a day, caused some increase of appetite. Cotoïne is unchanged by either ptyaline or pepsin.

These doses gave rise to no gastric disturbance. Neither did they induce constipation. In rabbits the subcutaneous or intra-venous injection of cotoïne dissolved in an alkaline solution produced no conspicuous symptoms. It exerts no deleterious influence upon the digestive processes. Being insoluble in the stomach, it enters the small intestine unchanged. There it is dissolved by aid of the bile and intestinal fluids. No doubt the bile is more than able to dissolve it in such quantities as are used. That it is absorbed is shown by its elimination in the urine. Albertoni, after taking 20 centigrammes (3 grains) of cotoïne, collected the urine of twenty-four hours, evaporated it upon a water-bath, and extracted the residue with ether. After spontaneous evaporation of the ether there remained a crystalline mass, which was partly white and partly brownish. These crystals were insoluble in distilled water, soluble in a dilute soda solution, yielding a beautiful yellow color, which, upon the addition of nitric acid, was converted into a beautiful blood-red color. Sulphuric acid added to the alkaline solution produced a yellow-brown. In other words, the characteristic reactions of cotoïne were displayed by the urine.

The effect of cotoïne upon putrefaction was studied with extreme care. Two series of experiments were instituted, one within, the other external to, the living organism. Every species of putrefaction is carried on within the human body, especially within the intestine, by the co operation of the pancreatic fluid and bacteria. Nearly all the decomposition products are found in the bowel,—peptone, tyrosine, leucin, organic acids, carbolic acid, indol,

skatol, ammonia, carbonic acid, hydrosulphuric acid, hydrogen, carburetted hydrogen, etc.

Many of these are absorbed. The fæces contain a mere trace of carbohc acid. Most of it is eliminated with the urine, which normally, according to J. Munk, contains from .017 to .051 gramme daily. The indican of the urine is, as we are informed by Jaffé, derived from indol. Therefore, the amount of these substances present in the urine is an index of the functional condition of the bowel and of the intensity of the processes of decomposition taking place within the intestinal canal. Albertoni is convinced that the use of cotoïne does not cause disappearance of the carbohc acid from the urine. He admits that Burkhart and Pibram were correct in asserting that the medicinal use of cotoïne in disease diminished the excretion of indican. But he looks upon this diminution as merely a secondary result, dependent upon the improvement of the intestinal disorder, with consequent decrease of putrefactive processes. In the second series the pancreas was used on account of its being so decomposable an organ. A fresh pancreas having been divided into three portions, one of these was placed in a glass containing distilled water which had been boiled and then allowed to cool, the second portion in a glass containing cotoïne, and the third portion in a glass with water containing cotoïne fully dissolved by the aid of a few drops of carbonate of sodium solution. The mouths of the glasses were stopped with cotton; the temperature of the room was 22° C. (71.6° F.). The first portion underwent decomposition at the end of twenty-four hours, the second at the end of forty-eight hours, while the third resisted decomposition until the third day. Countless bacteria were found in the first glass; they were less numerous in the second; and, while sufficiently abundant in the third, they were obviously much less numerous than in the first or second portions. Similar experiments with infusions of pancreas, to which fresh fibrin was added, yielded analogous results.

Hence, Albertoni was obliged to conclude that while cotoïne may retard it is unable to prevent the development of bacteria and the occurrence of putrefaction. The result is the same within or without the body. He furthermore experimented upon the intestine according to the method of Professor Salvioli; that is, the maintenance of life for a limited period by

means of artificial circulation in a portion of gut removed from the body. This is only possible for a few hours. After the lapse of one hour the gut becomes cedematous and saturated with fluid; subsequently further alterations occur. These changes were delayed when blood containing coto was artificially supplied.

Again, a piece of gut was divided into two parts by a ligature, the principal artery and vein supplying each part separated, normal blood injected into one and coto-blood into the other portion. The latter resisted alteration longer than the former. If into the jugular of an animal 10 to 15 centigrammes ($1\frac{1}{2}$ to $2\frac{1}{4}$ grains) of an alkaline solution of coto were injected, and the abdomen opened with proper precaution, a condition of active hyperæmia was found. The arteries were dilated, the intestinal walls reddened and injected, veins turgid, and blood less carbonized than normally should be the case. At the same time no alteration occurred in the circulation through the submaxillary gland. The temperature of the peritoneal cavity was raised. The dilatation of the abdominal vessels produced by cotoïne is active and not paralytic. No other substance has heretofore been found to exert this influence upon the abdominal vessels and the bowel. Nor need we be surprised that coto should affect the abdominal vessels, and those only, for v. Mosso has shown that a certain independence and antagonism exists between different vascular areas. The properties of paracotoïne were also investigated by Albertoni. He found, as had been asserted by Burkhart, that its action is similar to that of cotoïne, but weaker. The active dilatation of the abdominal vessels is much less marked. Petrone published in 1883 a short note upon the subject of coto. He "can assert that he has seen it diminish sensibly the quantity of carbohc acid in the urine." His experimental results agree, in the main, with those of Albertoni, but he places a higher estimate upon its antiseptic powers, believing that it notably retards the progress of organic decomposition.

In 1886 Dr. Ch. Eloy, working in the laboratory of the Bichat Hospital, was able to confirm the statements of Albertoni regarding the influence of cotoïne upon the abdominal vessels. "When the abdomen was opened he perceived congestion, turgescence, and arborization of the vessels of the intestinal mucous membrane, particularly in the first part of the

small intestine." The earlier observations in regard to the therapeutical efficiency of coto, paracoto, and their active principles are, for the most part, due to German physicians. As has been stated, the first clinical investigations were made by v. Gietl, of Munich.

It is especially in diarrhoea that coto has been found useful. Von Gietl reported in 1875 his observation of 16 cases, some of which followed acute catarrh of the stomach and bowels, while others were cases of chronic diarrhoea, especially occurring in tuberculous subjects. In 15 of this number a rapid cure was obtained. This author expresses the conclusion that "we possess in this new bark a specific against diarrhoea in all its forms."

He administered it in the form of powder, $\frac{1}{2}$ gramme ($7\frac{1}{2}$ grains) at a dose, and of tincture in 10-drop doses every two hours. In one case of tubercular diarrhoea, both the powder and the tincture caused burning pain and vomiting. In another case, of the same nature, the powder was not well borne, but the tincture occasioned no disturbance.

Burkhart became interested in the new remedy in consequence of the chemical investigations of Jobst. His clinical experiments were carried on in the Ludwigs-pital of Stuttgart. His results were, in general, confirmatory of those reported by v. Gietl. They were not, however, altogether satisfactory to himself, since he often found that, after three or four doses had been administered, the patients exhibited a repugnance to the medicine on account of its producing severe vomiting and burning pain in the stomach. In many cases these symptoms were caused by the first dose, and the patients refused to continue its use. He ascribed these results to the large amount of acrid resin and ethereal oils which the bark contained. They were produced both by the powdered bark and its alcoholic tincture, and finally threatened to put an end to his investigations.

He then began to employ cotoïne, but his supply of the drug was soon exhausted. At this juncture Jobst received his second sample of the bark, which proved to be the paracoto, from which he soon extracted paracotoïne. With this latter substance Burkhart recommenced his experiments, and soon began to form a favorable opinion of its powers. He was the first who made use of the active principles,—cotoïne and paracotoïne. He states

that the therapeutical action of the latter is similar to that of the former, but that the dose needs to be twice as large in order to produce the same effect. As paracotoïne is insoluble in water, it was given in emulsion or in powder mixed with sugar, being well taken in the latter form, even if gastric catarrh were present. In this it has an advantage over cotoïne. Paracotoïne was found effective in cases of acute intestinal catarrh, in chronic diarrhoea dependent upon chronic intestinal catarrh, or as accompanying other chronic catarrhs. It proved successful in a number of cases of diarrhoea occurring during the progress of phthisis after all the usual remedies had failed. It gave very excellent results also in the intestinal catarrh of children. In severe acute gastritis, attended with much pain, opium was more efficient; but in subacute intestinal catarrh paracotoïne gave relief when opium and tannin had been unsuccessful. Burkhart had employed it in 16 cases of tuberculous diarrhoea, in most of which other remedies had been resorted to without avail. In 2 cases the diarrhoea only appeared two days before death, but even in these the frequency of the passages was at least restrained. In all the other cases the results were excellent. In 5 fever recurred every evening. With the administration of paracotoïne, not only was the diarrhoea controlled, but the fever also abolished. Before the use of this drug, the temperature which, in the morning, was nearly normal, ascended in the evening to 38.5° to 39° C. (101.3° to 102.2° F.). While using the powder, and after it had been discontinued, the temperature ceased to rise in the latter part of the day. He also resorted to this remedy in 3 cases of parametritis in which severe and obstinate diarrhoea co-existed. In 2 of these cases the remedy succeeded and in 1 it failed. He mentions, likewise, 2 cases of caries, accompanied by profuse diarrhoea, in both of which paracotoïne was productive of the most gratifying effect. This author is convinced that we have in paracotoïne a very valuable and efficient agent in diarrhoea. Finally, Burkhart tells us that his own experience is confirmed by private communications which he has received from other physicians. In order to complete his study of coto-bark, he endeavored to ascertain the properties of its other constituents,—leucotin, oxyleucotin, and hydrocotoïne. He decided that they are remedial in diarrhoea, but that they must be given in doses

three times as large as paracotoïne in order to produce the same effect. Burkhart and Jobst suggested that coto might prove useful in Asiatic cholera. In 1878, Professor Baelz, of Tokio, Japan, reported 5 cases of cholera in which this suggestion had been followed. Paracotoïne was used in doses of 0.2 gramme (3 grains) by subcutaneous injection. It appeared to be strikingly successful, but, unfortunately, could be tried in 5 cases only, as the supply of the drug was exhausted and no more could be obtained.

Professor Baelz especially cites 1 case, that of a well-built European girl, aged 22 years, who, for hours after seizure, lay apathetic, cyanotic, and collapsed, with cold extremities, thready pulse, frequent vomiting, and involuntary rice-water discharges. At 4 P.M. 3 grains were injected beneath the skin. The vomiting soon ceased. The next evacuation occurred at 5.30 P.M., when the same dose was given by the mouth. She improved rapidly; the pulse grew stronger and more regular, the extremities regained heat, the cyanosis disappeared. Small quantities of brandy were also administered every fifteen minutes. At 8 P.M. there was one thin stool. At midnight the hypodermic injection was repeated.

At 1 A.M. appeared a profuse sweat, which became still more abundant on the following day. At this time the patient, though extremely weak, was convalescent. All the cases of this reporter were cured. Its insolubility is the greatest objection to the hypodermic use of paracotoïne. Professor Baelz recommends equal parts of glycerin and water as the best vehicle. It is said that the remedy proved ineffectual in the cholera epidemic which raged in Egypt and Southern Europe a year or two ago, but it has been surmised that this failure was due to inferior samples of bark. Dr. Stoyell C. Parsons, of New York, reported 28 cases of diarrhoea, in which he had employed coto-bark with marked benefit. Nearly all of his patients were children. Many were apparently hopeless. In but one, however, did the remedy fail. The exception occurred in a strumous child suffering from acute bronchitis. In the shortest cases but three doses were required, while seven days was the longest time in which it was employed. He used compressed pills for adults, an elixir for children in doses of 6 to 12 drops every one to three hours, according to the urgency of the case. He esteems coto

as tonic and specific in acute and chronic diarrhoea. At the same time it is without narcotic influence. Dr. Frommüller, of Furth, published an article in 1879 in which he relates his experience with the new remedy. He had treated at least 200 cases by means of coto-bark. He first used it in diarrhoea which had resisted other drugs. In 85 cases, most of which were colliquative and of typhoid or tubercular origin, he was able to report 50 cures, improvement in 26 cases, while in 9 cases the results were negative. The dose was variable. Frommüller gave from 50 centigrammes ($7\frac{1}{2}$ grains) to 25 grammes (386 grains) daily. The diarrhoea generally recurred after some days, but a return to treatment was followed by complete and rapid relief. The evacuations became regular and regained the normal consistence. The author considers that success is in direct relation to the dose. He generally found small doses to fail. He used a tincture made of 1 part of the bark to 9 of alcohol of 85°. He remarks that this tincture should be well prepared. Otherwise it produces an unpleasant burning sensation in the throat. But when well prepared it is well borne by the stomach. The appetite is preserved. The medium daily dose, according to this author, should be about 7.50 grammes (116 grains) in three equal doses. It can be taken pure upon a little sugar or in water. It has also given good results in profuse sweating. He cites a case of phthisis with sweating and colliquative diarrhoea, both of which were suppressed by a large dose of the tincture of coto-bark. Out of 91 cases of night-sweats, in 34 they were checked entirely, in 36 diminished, while in the remaining 21 cases they were uninfluenced. Dose ranged from 50 centigrammes to 25 grammes daily. The influence of coto upon the night-sweats of phthisis has been confirmed by Dr. J. Stewart, of Canada. While administering it for the diarrhoea he observed that it also arrested the sweats of phthisis. Since learning this fact he had used it, at the time of his report, in 22 cases of night-sweats, with decidedly beneficial results except in two instances. In 16 cases the arrest was prompt and long continued. In 4, though restrained, the sweats soon returned. In 2 cases no influence was exerted. One of these was a case of rapid phthisis accompanied by great pharyngeal irritation. To this observer coto seemed to be more permanent in its effects than atropine.

In the other case, in which coto failed, atropine, strychnine, and oxide of zinc were also found useless. In 1879 Dr. J. Burney Yeo testified to the worth of coto-bark in the diarrhoea of phthisis. He is persuaded that we possess in coto-bark a remedy which will help control the exhausting attacks of diarrhoea which occur in the advanced stages of phthisis. This opinion represents the experience of more than two years. He had given it in many cases which had resisted opium, bismuth, tannin, ipecac, etc., and found that almost invariably it restrained the discharge and relieved intestinal pain and irritation within a short time.

At first he had obtained no good result. One of his colleagues also complained of the same want of success. The latter had given it in pill mixed with other substances. Yeo had combined it with chalk mixture. In both these forms it proved inert. The mode of administration was faulty. As the fluid extract contains a resinous element which is precipitated in tough masses when the extract is carelessly mixed with water, he had the following preparation made:—

Fluid extract of coto,	60 minims.
Compound tinct. of cardamom,	60 "
Mix these together and slowly triturate them with	
Mucilage of acacia,	3 drachms.
Simple syrup,	2 "
Add enough water to make 6 fluidounces.	
Dose, a tablespoonful.	

This is an opaque mixture, of a not unpleasantly warm and aromatic taste. Two or three doses will generally arrest or check the severest forms of phthisical diarrhoea. He has no personal knowledge of cotoïne. In a case which he saw in consultation he suggested its use in one of the grave forms of exophthalmic goitre. It not only arrested the diarrhoea, but also appeared to have a remarkable influence in allaying the distressing nervous symptoms of the case. He is sure that it is a valuable remedy, and ought to come rapidly into general use.

Rohrer, of Zurich, obtained very excellent results in 180 cases treated by coto bark. Of this number, 167 were cases of diarrhoea, 15 of typhoid fever, 3 of hyperidrosis. He praised it also in the diarrhoea of children. He was accustomed to use the tincture in 10- to 30-drop doses in adults. In cholera in-

fantum he added cotoïne to powdered musk. In the diarrhoea of adults, if much pain was present, he combined the tincture of coto with laudanum. He closes his important communication with the following words: "Coto and its preparations are very powerful remedies in diarrhoea, supported by children as well as by adults; produce no accidents, and even act favorably upon the digestive functions."

Fr. Dr. of the Prague Polyclinic, used coto in 162 cases of intestinal catarrh in children aged from 1 to 12 years; of these 143 were cured, in 5 cases the result was negative, and 5 proved fatal. The remaining cases could not be observed to the end. He likewise employed it in 301 cases of rachitis accompanied by diarrhoea in children of from 1 to 2 years of age; 221 were cured and 41 died, 14 of diarrhoea, others of various complications. He tested, in the same manner, 22 cases of intestinal catarrh in adults, with 15 cures, and 9 cases of tubercular diarrhoea with 6 cures. In 349 cases which recovered, the duration of the disease before the coto treatment was begun varied from one day to two years. The duration of treatment ranged from three to nine days. Coto appears to have attracted no attention in France until 1883, when it was made the subject of a short article by M. P. Bricon. He indicates its use in diarrhoea without intestinal ulcers, complicating different forms of mental alienation, phthisis, pellagra, etc. His information is chiefly derived from the comprehensive paper of Professor Albertoni. After his exhaustive inquiry into the physiological action of coto and paracoto, Albertoni proceeds to speak of their therapeutical powers. He found them useful in the diarrhoea, often very obstinate, which accompanies various stages and kinds of insanity. They were efficacious both in recent and old cases. They failed in general paralysis, in which the autopsy revealed the existence of intestinal ulcers and other anatomical alterations. In 2 cases coto was curative after it had been used for some months, but the attacks recurred, when it proved less useful, and it became necessary to resort to other drugs. In these cases, also, intestinal ulcers were found upon post-mortem examination.

The best results were obtained in chronic intestinal catarrh. Even when the passages were numerous and abundant they were checked within a few days. No favorable results were

observed in drunkards or where the portal circulation was embarrassed, as in cirrhosis of the liver. He confirms the statements which had been made of its value in tuberculous diarrhoea. He saw cases yield to coto that had obstinately resisted every other medicament. But in the very advanced stage of phthisis, and where intestinal ulcers are present, it failed of effect. He cites a case in illustration of its beneficial action. A boy, aged 9 years, suffered with swelling of the elbow, phthisis pulmonum, and diarrhoea. The joint was resected. Opiates and astringents had no control over the diarrhoea. The passages reached twenty daily. Finally, he was given 0.40 gramme (6 grains) of cotoïne, divided into four doses. In two days the number of daily evacuations were reduced to six, and in five days the diarrhoea, to which the boy had been subject for a year, was entirely cured. The diarrhoea of pellagra is often severe, rebellious, and even fatal. In such cases Albertoni not infrequently saw cotoïne succeed after every other means had proved ineffectual. The diarrhoea is dependent upon the reduced nutrition of the bowel, which is often atrophic, and therefore cotoïne is a peculiarly appropriate remedy. In children he thinks it particularly indicated in those cases of diarrhoea which accompany the various forms of mental alienation in chronic intestinal catarrh, in the diarrhoea of marasmus and other cachectic states, in pellagra, tuberculosis, and rachitis. It will not always succeed. In 4 cases in which it failed Albertoni found intestinal ulcers. He considers that hyperæmia of the bowel and a tendency to intestinal hæmorrhage contra-indicate its exhibition. He tried it in dysentery, with no result. He used paracotoïne in 12 cases of diarrhoea of the insane. It was entirely and speedily successful in 5 cases which had lasted a week. The same result was obtained in 1 case in which attacks had recurred at intervals during eighteen months, in a second in which attacks had occurred frequently during a year, and in a third for three months. Many other drugs had failed. In 4 cases of chronic diarrhoea (thirteen years) paracotoïne yielded no benefit. A case of tuberculous diarrhoea was at first relieved by paracotoïne, which subsequently lost its effect. Here, again, an ulcer was found. Albertoni does not believe that the virtue of coto in diarrhoea is due to its restraining peristalsis, since it does not constipate healthy people. Accord-

ing to his theory, it acts by producing an active dilatation of the intestinal blood-vessels, with consequent improved nutrition and reproduction of the intestinal mucous membrane. Hence, it favors absorption. Disturbed absorption is often the source of a diarrhoea. The coto preparations exert a special influence on the intestinal epithelium, modify its physiological functions, and promote its nourishment through dilatation of the vessels. Intestinal absorption is governed not only by chemico-physical circumstances, but also by the physiological activity of the epithelium, as Hoppe-Seyler has shown. When their function is impaired, absorption is imperfect, foods remain in the canal, and their decomposition causes diarrhoea. In intestinal catarrh much epithelium is lost, and the denuded mucous membrane can allow nutritious material to escape from the blood as through a sieve. Clinical experience demonstrates that diarrhoea may occur from reduced nutrition. In such cases no remedy would seem so appropriate as coto in some form.

Petrone used coto with good effect in 6 cases of intestinal catarrh. He believes that in acute and chronic diarrhoea a large dose, repeated twice daily, is more efficacious than the protracted use of smaller doses. He adds that it does not disturb digestion.

In 1886 Dr. Henri Huchard, of the Bichat Hospital, published his observations upon the therapy of coto. He preferred to employ the active principle, cotoïne. He uses 20 to 60 centigrammes daily (3 to 9 grains) in cachets of 20 centigrammes each. Laborde prepared an alcoholic extract and a wine. The formula for the latter is as follows: Coarsely-powdered coto bark, 30 grammes; Malaga wine (16°), 1000 grammes. Macerate for ten days, shaking occasionally, and filter.

The report of Dr. Huchard was founded upon the use of cotoïne in 21 cases of diarrhoea. Ten of these cases occurred in consumptives, of whom 3 were in the last stage of the disease, and probably had intestinal ulcers. There were also 8 cases of catarrhal and 3 of arthritic diarrhoea, the latter of several months' duration. He cites in evidence the case of a youth, aged 17 years, who had suffered for five months from arthritic diarrhoea. The attack had resisted all the usual modes of treatment. Three cachets, each containing 20 centigrammes of cotoïne, were given daily. The diarrhoea ceased entirely upon the fourth day, and did

not return. Out of 6 cases of tuberculous diarrhœa, of which 3 were very obstinate, in only 2 did the remedy fail. Huchard commends the use of cotoïne in infantile diarrhœa, in the diarrhœa of typhoid fever, and pellagra.

I have been in the habit for years of prescribing coto-bark in different varieties of diarrhœa. The history of a case which I saw in consultation during September, 1889, strikingly exemplifies its beneficial effects. The patient was a lady, aged 63 years, who had been afflicted for six years with a sluggish form of intestinal tuberculosis. During the summer of 1889 the diarrhœa, which was accompanied by more or less hæmorrhage, severe pain and prostration, threatened a speedy fatal issue. Spite of fresh country air, liberal diet, free stimulation, baths, rides, the sedulous use of standard remedies, such as bismuth, sulphuric acid, opium, nitrate of silver, etc., she grew steadily worse. She suffered from severe tenesmus, had bloody stools and scanty, high-colored urine, with much abdominal tenderness, pain, and tympany. Emaciation became extreme and the strength was utterly prostrated. The patient had premonitions of approaching death, and such was her state of inanition that she was haunted by phantoms whenever she closed her eyes. In addition to the above symptoms she had fever and night-sweats. She was in this deplorable condition when I advised the administration of the fluid extract of coto bark in 3-drop doses in milk, every three hours, and $\frac{1}{8}$ grain nitrate of silver in syrup of acacia before meals. This treatment was instituted at once, and in a day or two there was noticeable improvement. The diarrhœa was greatly modified. Diet and hygienic measures were continued as before. At the end of three weeks the nitrate of silver was discontinued and coto-bark alone was administered. The patient still improved, notwithstanding the fact that she had acquired a distaste for stimulants and refused to take any more alcohol. She is still gaining ground, and is now (April 20, 1890) able to attend to her duties as a housewife. Within the past few weeks she walked half a mile without ~~g~~ue. She continues to take coto-bark, having increased the dose to 17 drops every three hours. She is cheerful and bright, almost free from pain, and, although she has occasional attacks of diarrhœa, she is generally able to avert them by resort to the coto. She is now hopeful of complete recovery.

Most authors who have written of coto have praised it as a powerful remedy in diarrhœa. It is just to acknowledge, however, that some have formed an adverse opinion.

Von Eisenstein, in 1879, reported 10 cases of diarrhœa in which coto was unsuccessful. The tincture was given in 10-drop doses every two hours. Seven of these cases were of tubercular origin; the remaining 3 arose from simple intestinal catarrh. Dr. Gee gave 20-minim doses of the liquid extract of coto bark every four hours in tubercular diarrhœa, empyema, typhoid fever, and lardaceous disease without perceiving any benefit. The accidental diarrhœa of a suckling appeared to be aggravated by the drug. Dr. Cattani, of Milan, in 100 cases of different kinds of diarrhœa, obtained no results from cotoïne or paracotoïne. He gave the remedy alone, pushed the dose to 40 centigrammes (6 grains), and continued its use for ten or twelve days. Other Italian physicians have written to the same effect. Riggi believes that cotoïne is only indicated in simple and primitive chronic intestinal catarrh. Gasparini obtained contradictory results.

These direct contradictions are difficult to explain, unless, indeed, we may assume that the failures were due to the use of worthless specimens of the drug. Each individual can but report his own results. My experience, fortified as it is by that of other observers, whose work I have alluded to with some detail in this paper, justifies me in expressing a very favorable opinion of the value of coto in the treatment of diarrhœa. Very little has been published upon the subject in this country or Great Britain; yet the drug is winning its way into favor, I think, as I have been informed by several pharmacists in different portions of this city that they are not infrequently called upon to dispense it. On account of its influence upon the abdominal circulation, it should be used with circumspection in cases of acute intestinal catarrh. In the United States it is chiefly given in the form of fluid extract or tincture. The dose of the former is 1 to 5 minims, and of the latter 5 to 15 minims, to be repeated according to the indications.

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WHAT CAN WE DO FOR PSEUDO-MEMBRANOUS CROUP?

By W. R. D. BLACKWOOD, M.D.,

PHILADELPHIA.

TEN years ago we could do very little in bad cases; to-day we (that is, some of us) can do a great deal. The reason why we can do better now than heretofore is because new methods have come up, and newer ideas concerning the use of some drugs are known. If there is a more distressing malady in existence than croup, I don't know what it is, and I would like to find out. This disorder is fond of showing itself in the middle of the night, when all the family is sound asleep except the baby; the reason why the baby isn't sound

asleep is because it has all it can do to sound the alarm, and in proclaiming its trouble it alarms all concerned to the utmost possible notch, unless the parents are too cold-blooded to deserve having a baby at all. When you are called to investigate an eruption on a child, it may be difficult to say authoritatively that it is "chicken-pox" or "varioid," and within the last twenty-four hours I have been fixed just that way. I told the folks that it was the former, to allay their mistrust,—but maybe I am mistaken! Now, supposing I am wrong in the diagnosis, what harm will that do the child? Not a bit! The treatment is precisely the same to me. I don't fill its stomach with drugs, and they all do pretty well in the long run; no varicella ever died for me (or because of me, speaking more definitely). Not many variola cases have done so, either. But, suppose you are called to see a baby who is barking energetically, and the crowing cough and husky respiration are prominent. Is that real croup? or is it merely a specimen of spasmodic cacophony,—a dry larynx,—a sequel of too much supper or depraved digestion? To me the two are as widely different as brown stone and *paté-de-foie-gras*. The latter is set at rest by an emetic (I mean the crowing, not the degenerated goose-liver; if you are lucky enough to sup on this toothsome *entremets*, for goodness' sake, let it rest!), and there is nothing to my mind so good as alum and molasses, with some cold water on top of it, for this purpose; or, if this should not be at hand, then mustard and warm water will do. The latter, however, requires more water than the former. If medicine is required over and above this, then a little calomel will settle the business. I have been very partial for some years to jaborandi in all forms of croup,—the real as well as the false. I give from 10 to 30 drops of the fluid extract, with or without some syrup of wild cherry, frequently, and it does nicely. But how about the matter if it is pseudo-membranous? Emetics, calomel, and so on, don't strangle the disorder here as in the false phenomena,—the croup strangles the sufferer: here is a distinction with a difference. Ice applied to the throat, as recommended by my friend, Dr. M. O'Hara, is very good. Calomel, by virtue of its power to defibrinize the blood, and hence, secondarily, to check the formation of further membrane, is, in many instances, excellent. My preceptor, who has

had a large and successful experience in this way, Dr. James F. Gayley, taught me this fact "a many years ago." But what about the case when the respiration steadily fails? How about the baby when recession at the sternum is plainly seen either at its top or bottom? Here the ordinary muscles won't fill the lungs with oxygen; extraordinary muscular work is going on. It is a question of whether the blood can be aerated thoroughly until the violence of the attack is spent or not; in the vast majority of instances of real croup the patient will die as surely as if a rope was round its throat; that is, it will succumb under purely medical measures. McKenzie says 90 per cent. die; Sanne says that 1 in 13 did recover without operation at the Hôpital Sainte Eugénie. This is not encouraging: it is deplorable; but what can we do about it? Well, we can urge all those who demand our services to allow early operation, for statistics abundantly show that success crowns surgical measures in proportion as interference is instituted just as soon as its necessity becomes apparent. Don't wait till the patient is almost asphyxiated; the blood may then be beyond oxidizing. Anyhow, the strength of the child is spent, and that is a serious complication. Operate early; and what will you do? Tracheotomy has succeeded, according to such statistics as I can reach, in from 13 per cent. in young infants to 72 per cent. in those well on to manhood (or womanhood). Now, these figures are misleading, for no grown person gets croup; they may contract diphtheria, but this is another matter altogether; the honest truth is that less than 25 per cent. get well under tracheotomy, and that most of such would survive without it I firmly believe. Season has something to do with it, also; in winter fewer get over it than in summer. The time, however, is the main factor. On the first day Lovett and Munro showed that 32½ per cent. recovered, but on the fourth day only 14 per cent. got well,—a big difference. It is said that operation secures euthanasia if it doesn't save life. I don't think so; the appearance of a dying sufferer is terrible, but it seems to me that accumulation of carbonic acid in the circulation blunts suffering.

Can anything better be urged than opening the windpipe? I think that is capable of an affirmative answer. Intubation is by all odds superior to tracheotomy, and for several rea-

sons. First, it does not terrify the onlookers as being a bloody operation; next, it is so simple, apparently, when explained to the parents as to provoke little or no objection; again, it does not demand anaesthesia, or it would very seldom require it. It is rapidly performed as compared with the other procedure; it is more efficient because it permits warmed air to enter the lungs through the natural avenue, whilst the lungs are chilled more or less unless extraordinary care is shown under tracheotomy; the intubation tube is not so readily obstructed as the other, and thus it averts danger of suffocation. The paraphernalia of tents and steaming-kettles is unnecessary with intubation; it is very important with the other plan. I do not know how difficult intubation may be, for I never did it; but I do know what a bother tracheotomy is, for I have been there too often, though I will never do it again. It appears that the percentage of recoveries under intubation is somewhere near that of tracheotomy, but it will require further experience to decide this point definitely; if the two are successful in the same ratio, then intubation is, by long odds, to be preferred for the reasons above stated. A greatly augmented fatality under intubation, as compared with external excision of the trachea would, in my opinion, be the only valid objection to its universal employment. As the Quakers say, I have been "moved" to look into this matter from its being brought to my attention in the most direct way. I had a case at home. When a baby, I came near missing the chance offered me of being a great doctor from an attack of genuine croup. My uncle, then a prominent physician, bled me of nearly all the sanguineous fluid in my anatomy; thus we see what fashion does, for it wouldn't do to bleed a case now. Still, I got better, else this diatribe wouldn't appear in the BULLETIN, and my readers wouldn't be bored by perusing it, or enlightened, as they may elect. This event may account for the family having a leaning toward false croup, and we have stood all the wakefulness when we were very sleepy, and used or wasted all the alum, mustard, and hot and cold water that we could get our hands on in fighting these attacks that we could well afford; but we never had a case of *bona fide* membranous croup till this time, and it goes without saying that we never want another!

Through the skill and kindness of my friend,

Dr. Montgomery, gynecologist to the Medico-Chirurgical College, intubation saved our child; and, although I have often been indebted to professional friends for kind offices in our family before (for we have had all the trouble that ordinary mortals ought to have in the way of sickness), it remained for him to place us under an obligation that no household could forget, and which I most certainly will remember till I get too old to use my memory, if I unfortunately ever grow so ancient as that catastrophe would demand. No demonstration by the most skillful surgeon could more clearly show what ability may accomplish, and it would require an obtuseness of observation incident to "faith-healers" alone to confound the relation between cause and effect in the wonderful relief following the operation. I hope my readers will never be exposed to the anxiety which we suffered till this relief came; but if any of them, unfortunately, should be, I trust they will feel as grateful for what their surgeon does for them as all of our family does toward the gentleman whose skill turned for us the scale from certain death to comparative comfort in a little while, and recovery in the end.

246 NORTH TWENTIETH STREET.

A CASE OF RAPIDLY DEVELOPING OVARIAN SARCOMA—DIAGNOSIS BY EXPLORATORY LAPAROTOMY.

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ON the 11th of October last I was invited by Dr. Strassenburgh, of Lima, to visit with him Miss M., who gave the following history:—

She was unmarried, 33 years old, American, of German parentage. She had never been robust, but her health had been as good as usual until about the last two weeks previous to this visit. The catamenia had never been very regular, but she had menstruated nearly four weeks previously.

A little more than two weeks previous to my visit she was taken ill in the night with pelvic pain and vomiting, followed by slight febrile action. In the morning a tumor or fullness was noticed somewhat to the left of the median line and above the pelvic brim. Her physician, who, by the way, had given her a local treatment a few days previously for some uterine ailment, made a digital examination *per va-*

ginam at this time, finding the uterus firmly fixed in the pelvis. Dr. Strassenburgh had been in attendance during the past week, and reported a perceptible growth of the bunch in that period.

At this time the tumor had risen nearly to the umbilicus, for the most part smooth but not entirely regular in outline, a bunch being especially felt on its anterior surface, just above the pubes, a little to the left of the median line, about the size of an unimpregnated uterus. The uterus was out of reach of the finger in the vagina, but the tumor could be distinctly felt, lying behind the vagina and pressing upon it, immovable, neither very hard nor very soft, nor especially elastic, and not sensitive to pressure. The pulse was about 108; temperature ranged from 99° to 102°,—ordinarily about 101° F.; the face pale, but not sallow; altogether, the patient seemed very ill; treatment mostly expectant.

On the morning of October 15, four days later, the patient had a severe chill, followed by fever. I saw her during the afternoon, and aspirated *per vaginam* with negative results. This was attributed to the difficulty of passing the instrument in the direction of the centre of the tumor. However that might be, it was thought best to defer further exploration for a few days, awaiting developments, and I planned to see her on the 18th, one week from my first visit and twenty-two or twenty-three days from the onset. By this time her condition was becoming desperate. She had had more chills, with high fever; the bunch, reaching to the umbilicus, was somewhat irregular in outline, and a prominence which seemed to be the uterus could be felt through the abdominal walls, above the pubes, as it appeared a week previously.

There were also present at this time Dr. Strassenburgh, Dr. Bennett, and Dr. Guinan. Aspiration above the pubes being negative, with the usual antiseptic precautions I opened the abdominal cavity through the linea alba, making an incision about 2½ inches long, the exploration revealing a large sarcoma of the left ovary. There was some free fluid in the abdominal cavity, such as is usually found in sarcomatous disease, due to peritonitis; the uterus was drawn up and adherent to the anterior surface of the tumor, it proving to be the protuberance felt before the operation. Owing to the danger of excessive hæmorrhage in an attempt at removal, the wound was closed, leaving the tumor

undisturbed. The wound healed by primary union, although fluid continued to flow out of one angle of the opening, and the patient died of exhaustion one week later, about four weeks from the time attention was first directed to the trouble. There was no autopsy.

In attempting to analyze the symptoms of this case, with a view to diagnosis, we were confronted by conditions which might exist in almost any difficulty originating in the pelvis, and which, at the same time, would not bear complete analogy in tracing the clinical history of any one.

Thus, the apparently sudden development of a tumor of some sort, attended with vomiting and abdominal or pelvic pain, the slight elevation of temperature, and subsequent chills, with high fever, seemed to indicate the occurrence of hæmatocele; but the constant increase in growth, if hæmatocele existed, could only be accounted for on the supposition that cellulitis had developed, and even that could hardly explain it. The amount of fever, pain, and tenderness to the touch were not sufficient for the occurrence of cellulitis *de novo*. The rapidity of growth to its present size seemed equally against fibro cystic tumor, inflamed ovarian cyst, cyst of the broad ligament, pyosalpinx, or even malignant disease. The somewhat irregular outline of the growth, together with the negative results of aspiration, suggested the possibility of the latter; but, as multilocular ovarian tumors may present as irregular an appearance through the abdominal wall, and as inflammatory or septic symptoms existed from the first of the history, with the want of cachexia, the existence of malignancy was only conjectured. Of the authorities consulted, Spencer Wells* alone cites one case of sarcoma, in which the tumor attained to a considerable size at the end of two months from the time of discovery. I had seen but one case of ovarian sarcoma, and it was several months in reaching the size of this one, and the patient was cachectic. The same duration occurred in 2 or 3 cases of sarcoma of the kidney in my practice.

In cases of sarcoma, symptoms of peritoneal inflammation usually develop during its course, but rarely so early and so markedly as in this case. The growth had undoubtedly begun some days before attention was called to it, and the inflammatory symptoms occurring so early were due to the unusual rapidity of the growth.

ABSTRACTS.

ELEPHANTIASIS OF THE CLITORIS AND VESICO-VAGINAL FISTULA OF NON-TRAUMATIC ORIGIN IN A SYPHILITIC WOMAN.—The case, reported (*Annali di Ostetricia e Ginecologia*, Nos. 3 and 4, 1890) by Lauro Vincenzo, was that of a prostitute,*aged 27 years, a nullipara. The woman had suffered from repeated attacks of gonorrhœa and was syphilitic. Eruptions and ulcerations of the vulva had occurred more than once and had finally produced incontinence of urine. She was also addicted to masturbation, which practice led her to observe a slow but gradual enlargement of the clitoris. Upon examination, the clitoris was found to be $2\frac{3}{4}$ inches in length, while the anterior commissure of the vulva was also enlarged to the extent of about $\frac{3}{4}$ inch. A few scattered nodules were perceived upon both these structures. A bridle about $\frac{1}{2}$ inch long connected the right nymphæ with the prepuce of the clitoris, while a similar bridle united the left nymphæ to the balano-preputial sulcus of the clitoris and was pierced by a cicatricial orifice at its centre. Immediately within the meatus there was an opening communicating between the urethra and vagina, while 3 centimetres (1 inch) further inward was another circular opening 5 millimetres ($\frac{1}{2}$ inch) in diameter through which urine escaped. The diagnosis was elephantiasis of the clitoris and its prepuce with uro-genital fistula corresponding to the neck of the bladder, the patient being syphilitic. The treatment consisted of ablation of the clitoris, together with the affected portions of both nymphæ, and suture of the fistula, by Professor Morisani.

To this history the writer appends the following remarks: Hypertrophy of the clitoris without involvement of all the other structures composing the vulva is very rare. As regards the origin of the case described, Vincenzo was able to exclude congenital deformity, onanism, excessive coitus, and syphilis. Careful histological examination demonstrated that the case was one of elephantiasis, and not of simple hypertrophy. The nymphæ were normal. The genesis of the affection was sufficiently plain. To syphilis as a basis, with its tendency to inflammatory processes, had been added repeated local irritation, as gonorrhœa, ulcerations, and self-abuse. The bands between the

* Diseases of the Ovaries.

labia minora and the clitoris are explained as a consequence of the numerous ulcers of the vulva and the traction which the clitoris in its frequent erections had exerted upon the nymphæ.—*Giorne Internazionale delle Scienze Mediche*, July 15, 1890.

CONTRIBUTION TO THE STUDY OF HEMERALOPIA AND EPITHELIAL XEROSIS OF THE CONJUNCTIVA.—From the labors of Bitot, Villemain, and Netter, it is known that idiopathic hemeralopia frequently coincides with the presence of small patches of epithelial xerosis upon the ocular conjunctiva within, and especially without, the corneal margin and on a level with the palpebral fissure. Since these patches of xerosis contain numerous bacilli very similar in appearance to those which cause septicæmia in mice, it was at first supposed that xerosis was of parasitic origin, but later researches have shown that the microbe in question is neither specific nor pathogenetic. In fact, it is found upon numerous ulcers (varicose ulcers of the leg, soft chancres, etc.) and upon mucous membranes (vagina), and its abundance upon patches of xerosis is explained by the simple fact that it finds in them a very favorable field for its development. At present it is generally admitted that both xerosis of the conjunctiva and hemeralopia are due to the same systemic condition; that is, depressed nutrition. Nevertheless, many facts in the etiology of these affections still remain obscure, and, if the development of hemeralopia under the influence of insufficient alimentation be considered as satisfactorily demonstrated, how shall we account for the fact that this disorder is not more frequently observed as a sequela of the numerous maladies which leave behind them profound depression of nutrition? Hemeralopia, with or without xeroses, has been hitherto observed to follow only diseases of the liver, chronic nephritis, chronic malaria, anæmia (the later months of pregnancy), and the nystagmus of miners. To these exciting or predisposing causes of hemeralopia, M. Uhthoff has lately added one never before indicated, viz., chronic alcoholism. Of 1500 patients examined by that writer in the course of a year, in the department for the insane of the Charité Hospital of Berlin, about 500 were drunkards, and of this last number 24 (i.e., 5 per cent.) were the subjects of hemeralopia or of conjunctival xerosis, 14 having xerosis with-

out hemeralopia, 3 having hemeralopia without xerosis, while in 7 the two affections co-existed.

All of these patients were undoubted old drunkards, admitted on account of more or less grave manifestations of alcoholism, such as mental disorders, delirium tremens, convulsive attacks, etc. The relation of cause and effect between alcoholism on the one hand, and hemeralopia and xerosis on the other, is further shown by the fact that, of among 3000 female patients in the same department of the same hospital, very few of whom were drunkards, the author seldom met with a case of hemeralopia, or xerosis. Some of the 24 men suffered from retro-bulbar neuritis, such as is often seen in drunkards, even in the entire absence of hemeralopia and xerosis, but Uhthoff has been unable to detect any of those lesions of the fundus of the eye which have been considered by certain authors as the cause of hemeralopia. In the majority of his patients, he was able to eliminate the influence of insufficient food, digestive troubles, diseases of the liver, or heredity. But in most cases he could verify the fact that appearance and disappearance of hemeralopia or xerosis coincided with the beginning and discontinuance of drinking habits. From all these facts M. Uhthoff concludes that chronic alcoholism is one of the causes which, directly or indirectly, produce hemeralopia and epithelial xerosis of the conjunctiva under the form of the spots or patches so well described by Bitot.—*Recueil d'Ophthalmologie*, August, 1890.

TO REMOVE THE SMELL OF IODOFORM FROM THE HANDS.—For this purpose Bienert recommends (*Pharm. Zeitschr. Russl.*) washing the hands once or twice with flaxseed-meal in water. He states that the odor very quickly disappears.—*Deutsche Med. Zeitung*, November 24, 1890.

THE COMBINED INFLUENCE OF THE BACILLUS OF KOCH AND THE MICROBES OF SUPPURATION IN THE EVOLUTION OF LUPUS.—Upon this subject M. H. Leloir writes as follows:—

“My attention has been arrested by the fact that dry forms of lupus—*non-exedentes*—contain no microbes of suppuration. On the contrary, in ulcerated lupus these micro-organisms are abundantly found and are more numerous in proportion to the rapidity of the ulcerative process. Again, in certain cases I have seen

non-ulcerated lupus, treated by methods which determine inflammation and end in suppuration of the lupous nodules (cauterization, scraping, irritant applications), present the following peculiarities: The lupous patch at the end of a certain time generally cicatrizes under the influence of a well-devised treatment; in exceptional cases certain nodules—often those which have been incompletely treated, but in some cases those situated within the focus of the therapeutic action—become inflamed and covered with crusts, assume a flabby, fungous appearance, and ulcerate. A more energetic destructive treatment is then instituted, but, notwithstanding, the ulcer increases in depth and extent; at times even the surrounding tissue, which had appeared perfectly healthy, ulcerates more or less rapidly. In such cases I have asked myself whether the ulceration was not due to the presence of the microbes of suppuration. I then began a method of treatment calculated to combat the phenomena of suppuration, and having no other action upon the lupus, whether ulcerated or non-ulcerated. This treatment was based upon the use of subcarbonate of iron, salicylic acid, boric acid, salol, or aristol, and checked the progress of the ulceration within twenty-four or at most forty-eight hours, and within a few days secured complete cicatrization. In view of these facts, I find it impossible not to admit that the ulceration depended not upon the pathogenetic germ of lupus, but rather upon independent pathogenetic organisms, in all probability those of suppuration. This opinion is confirmed by the fact that sometimes, after total cicatrization of lupus, a rapid ulcerative process begins in the scar or its immediate neighborhood and staphylococci aurei are present in abundance. The treatment proper to lupus has no effect upon such ulcers, but an antissuppurative treatment soon promotes cicatrization. From these facts the following pathogenesis may be deduced:—

“The bacillus tuberculosis and the treatment adopted in consequence of its presence open a gate of entrance to the pathogenetic agents of suppuration. The lupus once cicatrized, the tubercle bacilli, if any remain, develop with difficulty, as the skin is a bad culture soil for them. But the pathogenetic agents of suppuration, likewise present within the cicatrized lupus, repullulate vigorously. A proof that these accompaniments or consequences of lupus

are not really of lupous character is that inoculation of guinea-pigs with their products fails to generate any manifestation of tuberculosis. On the other hand, having in 3 cases inoculated the peritoneal cavity of guinea-pigs with matter taken from the bottom of such ulcers, the animals died of suppurative peritonitis. It therefore appears that in many cases of ulceration of lupous nodules or surrounding tissue the process is in relation not with the bacillus of Koch, but with the agents of suppuration. Lupus, properly so called, gives rise to a tubercle which ulcerates, perhaps, only under the influence of the agents of suppuration.”—*La Tribune Médicale*, December, 11, 1890.

CHOREA SIMULATED BY HYSTERIA.—At a meeting of the Medical Society of the Hospitals, October 10, 1890, M. Debove related the case of a male patient who presented every sign of chorea. The interne, having detected hysterogenetic zones corresponding to the ovarian points of the female, made forcible pressure upon these points, and the choreic manifestations ceased in a minute. The patient had also anæsthesia of the pharynx. The chorea came on after the failure of an attempt which he had made to hang himself. The remarkable cure demonstrated it to be of hysterical origin.—*Le Progrès Médical*, October 18, 1890.

TUBERCULAR CIRRHOSIS.—A communication on this subject was made to the Biological Society of Paris, October 25, 1890, by MM. Gilbert and Hanot. Tuberculosis may give rise in the human subject to cirrhosis of the liver, though the occurrence is rare, and has been denied by certain authors because the anatomical characters differ somewhat from cirrhosis as usually seen. Nevertheless, a well-defined tubercular cirrhosis, accompanied by tubercles, is met with in the guinea-pig and rabbit. The cirrhosis is perilobular and composed of bands of fibrous connective tissue free from microbes, though the sclerosis is probably of bacterial origin.—*Le Progrès Médical*, November 1, 1890.

THE INFLUENCE OF HUNGER UPON THE SUSCEPTIBILITY TO INFECTIOUS DISEASE.—It is generally admitted by pathologists and sanitarians that hunger, want, privation,—everything, in short, which tends to weaken the

organism,—increases the susceptibility to parasitic diseases in general, and infectious diseases in particular. P. Canalis and B. Morpurgo, of Turin, have undertaken the task of determining the influence of hunger upon the susceptibility to splenic fever of otherwise refractory animals. Their admirably arranged and practically exhaustive experiments were upon pigeons, hens, and rats, and led to the following results:—

1. Animals naturally insusceptible acquire during hunger susceptibility to infectious disease.

2. Insusceptible pigeons constantly die of splenic fever when inoculated during a state of hunger.

3. Pigeons kept hungry for six days before inoculation did not develop splenic fever if placed upon liberal diet immediately after inoculation. If the hunger had lasted for more than six days they were generally attacked.

4. Resumption of diet does not prevent the occurrence of splenic fever if pigeons are kept hungry for two days after inoculation, though it delays the progress of the infectious process.

5. Total or partial extirpation of the pancreas renders pigeons susceptible for a certain time to splenic fever.

6. Splenic fever develops in inoculated pigeons when nourishment is suspended even so late as the eighth day after inoculation. Hence,—

7. The germs of splenic fever, thrown under the skin of insusceptible pigeons, remain living and active for many days.

8. The loss of immunity experienced by hungry pigeons for splenic fever cannot be attributed to the reduction of temperature which accompanies starvation, because infection does not take place if an equal reduction of temperature is produced in inoculated pigeons which are at the same time well nourished.

9. It is also possible to render hens susceptible to splenic fever by starvation.

10. The majority of these animals die if a period of three to seven days of hunger has preceded inoculation, but preserve their immunity if hunger does not begin until immediately after inoculation.

11. Adult white rats remain insusceptible to splenic fever even if they have hungered comparatively long before inoculation.—*Deutsche Med. Zeitung*, November 6, 1890.

ACUTE OEDEMA OF THE GLOTTIS DUE TO IODIDE OF POTASSIUM.—Dr. Grœnouw remarks that this symptom does not make its appearance after the repeated administration of massive doses of iodide of potassium. It generally manifests itself the first day, or some hours after the ingestion of a comparatively small quantity of the salt. From this circumstance a conclusion of great practical interest may be drawn, viz., that in a course of treatment by iodide of potassium no fear need be entertained of the development of œdema of the glottis after the patient has absorbed and tolerated well a few grammes of the salt. This affection is due to a local action of the iodide upon the respiratory passages, for it is in most cases impossible to recognize the symptoms of iodism. The phenomenon has been referred to idiosyncrasy, for no explanation has been found in the state of the larynx and kidney or in the composition of the drug.—*Revue de Laryngologie*, etc., September 15, 1890.

THE ARTERIES AND VEINS OF NERVES.—At a meeting of the Academy of Sciences, October 27, 1890, a communication on this subject was made by MM. Quénu and Lejars. Their researches had been facilitated by the employment of a new method of injection. The recurrent laryngeal is supplied entirely by the inferior thyroid artery. The lower half only of the pneumogastric and sympathetic receives nourishment from the inferior thyroid, the upper portion depending upon branches from the superior thyroid. The cervical portions of the recurrent, pneumogastric, and sympathetic are entirely supplied by the thyroid arteries. This vascular arrangement explains the transitory aphonia, respiratory and vasomotor disturbances observed after thyroidectomy and ligation of the carotid or thyroid artery. The arterial branches enter the nerve obliquely or after a recurrent course. They bifurcate and break up upon the surface of the nerve into long anastomosing arches before dipping into the interior. The veins of the nerves are more richly developed than the arteries. They cover with thick plexuses the ganglia of the sympathetic and pneumogastric. They empty into the net-work of vasa vasorum of the common carotid and internal carotid arteries, into the thyroid veins, and particularly into a plexus of muscular veins which ramify upon the lateral wall of the pharynx. In short

the veins of these nervous trunks empty into veins coming from muscles. This general disposition is found as well in the limbs.—*Le Progrès Médical*, November 15, 1890.

SALOL.—At a meeting of the Society of the Hospitals, held October 31, 1890, M. E. Hirtz said that the researches of Dreyfous had demonstrated that salol has an undeniable action upon the gonorrhœal discharge. The speaker had employed salol combined with copaiba and sandalwood-oil in 20 cases of gonorrhœa. He had seldom pushed the dose beyond 4 grammes (1 drachm) daily; in only 6 cases did he give as much as 6 grammes (1½ drachms). The discharge disappeared in from eight to twelve days. The blackish urine, due to carbolic acid, was not observed when the salol was given in broken doses. The remedy is useful in securing intestinal antisepsis. In 35 cases of continued fever, associated with the salicylate of bismuth it was always well received and well borne. In dyspepsia dependent upon dilatation of the stomach, it prevents gaseous eructations, pyrosis, meteorism, and the fetid diarrhœa resulting from the formation of septic products in the bowel. Salol is well borne by the stomach in daily doses of 4 to 6 grammes (1 to 1½ drachms). Its antiseptic is not counterbalanced by an antipeptic action. Salol does not have the irritant effect upon the urinary organs claimed by Herselmann. It is a noteworthy fact that the urine of patients taking salol may present reactions leading to the belief that glycosuria is present.—*Le Progrès Médical*, November 15, 1890.

WILD YAM.*

In chronic malaria wild yam is of decided advantage, and may be combined with arsenic, quinine, or nux vomica, as follows:—

- ℞ Liq. potass. arsenit., . . . f3j.
Tinct. dioscoreæ villosæ, . . . f3ss.
Tinct. cardamomi comp., . . . f3iiss.

M. A teaspoonful in water after meals.

In chronic gastritis the result of alcoholic excess, wild yam is very serviceable and may be prescribed thus:—

- ℞ Tinct. belladonnæ, . . . ℥xxiv.
Tinct. nucis vomicæ, . . . f3j.
Tinct. dioscoreæ villosæ, . . . f3ss.
Syrupi zingiberis, . . . f3iiss.

M. Teaspoonful in water every fourth hour.

THERAPEUTIC NOTES.

OX-GALL.*

The following prescriptions containing ox-gall are recommended:—

- ℞ Fellis bovis purificati,
Magnesii carbonatis, . . . āā c.
Ol. menth. pip., . . . m℥j.
M. et ft. capsulæ no. xx.

Sig.: A pill three or four times a day, after meals. Use in dyspepsia and constipation.

- ℞ Fellis bovis purificati, . . . 3j.
Extracti nucis vomicæ, . . . gr. j.
Aloini, . . . gr. j.
Ol. cinnamomi, . . . m℥j.

M. et ft. pil. no. xx.

Sig.: Two pills between meals. Serviceable in torpor of the liver and in dyspepsia.

IRON.*

Anæmic epileptics are benefited by iron, which may be very appropriately given in the form of the bromide and combined with potassium bromide, as:—

- ℞ Potassii bromidi, . . . 3vj.
Syrupi ferri bromidi, . . . f3vj.
Tincturæ chiratæ,
Elixir. simplicis, . . . āā f3j.
Aquæ cinnamomi, q. s. ad f3vj.

M. Dose, a tablespoonful three times a day.

The following combinations containing iron may be employed with good effect in gonorrhœa and syphilis:—

- ℞ Pilulæ ferri iodidi, . . . 3j.
Abstracti ignatiæ,
Extracti belladonnæ alc., āā gr. ij.

M. et ft. pil. no. xxx.

Sig.: From four to six pills a day, in gonorrhœal rheumatism and in gleet.

- ℞ Ferri phosphatis,
Saloli, . . . āā gr. cl.
Terebenæ, . . . f3ij.

M. et ft. capsulæ no. xxx.

Sig.: Three to six capsules a day, in gonorrhœa, gonorrhœal rheumatism, and cystitis.

- ℞ Ferri et potassii tartratis, . . . 3ij.
Acidi arseniosi, . . . gr. j.
Extracti erythroxyli, . . . 3j.

M. et ft. pil. no. xl.

Sig.: Two pills three times a day, in syphilis.

* From the advanced sheets of vol. ii of Shoemaker's "Practical Treatise on Therapeutics," now in press.

℞ Liquor. ferri malatis,
Aquæ cinnamomi,
Glycerini, ... āā fʒj.

M. Sig.: One to two teaspoonfuls in water three times a day, for syphilis with irritable stomach.

℞ Ferri lactatis, ... gr. xl.
Extracti cannabis Indicæ, . . gr. iss.
Extracti cascariæ sagradæ, . . gr. iij.

M. et ft. pil. no. xij.

Sig.: A pill three or four times a day, in syphilis.

℞ Syrup. ferri iodidi, ... fʒij.
Extracti hoang-nan fl., ... ℥i.
Aquæ cinnamomi, ... fʒj.

M. Sig.: A teaspoonful three times a day, for infantile syphilis.

ERGOT.*

Ergot may be prescribed according to the appended formulæ:—

℞ Ergotinæ, ... ʒss.
Cocainæ hydrochloratis, . . gr. v.
Plumbi carbonatis, ... ʒss.
Ungt. aquæ rosæ, ... ʒss.

M. For external use in acne rosacea and in boils.

℞ Ergotinæ, ... ʒj.
Sulphuris sublimati, ... ʒss.
Mentholi, ... gr. v.
Ext. belladonnæ alc., ... gr. x.
Ungt. zinci oxidi, ... ʒss.

M. Valuable in fissures of the nose, mouth, rectum, and in hæmorrhoids.

℞ Ergotinæ, ... gr. v.
Camphoræ, ... gr. x.
Ext. opii, ... gr. iiss.
Plumbi acetatis, ... gr. xx.
Ol. theobromæ, ... q. s.

M. et ft. suppositoriæ no. x.

Sig.: Insert one in the bowel when necessary for prolapsed rectum, diarrhœa, or for fissure of rectum.

℞ Extracti ergotæ fl.,
Extracti hamamelidis fl., āā fʒiss.
Glycerini, ... fʒj.

M. Sig.: Apply several times a day for chronic pharyngitis and nasal catarrh.

℞ Olei ergotæ, ... fʒij.
Lanolini, ... ʒj.
Ol. verbenæ, ... ℥v.
Ol. rosæ, ... ℥iij.

M. Sig.: Rub into the scalp well once or twice a day for dandruff. Useful, also, in loss of hair and sycosis.

Ergot is a reliable remedy in the several forms of capillary hæmorrhage and in overcoming the congestion attendant upon and causing the oozing. In hæmoptysis, epistaxis, hæmaturia, bloody discharges from the bowels (melæna), and in uterine hæmorrhage, ergot in ½-drachm doses of the fluid extract, repeated every hour or two, will generally promptly cause cessation of the bleeding. Ergot may be prescribed for various hæmorrhages with advantage, combined with geranium and witch-hazel:—

℞ Extracti ergotæ fl., ... fʒiss.
Extracti geranii fl., ... fʒj.
Extracti hamamelidis fl., . . fʒiss.

M. Sig.: A teaspoonful every half-hour or hour until bleeding ceases.

Good results have also been obtained from the administration of the fluid extract of ergot in acute dysentery, alone or combined:—

℞ Extracti ergotæ fl.,
Extracti hamamelidis fl., āā fʒiss.
Elix. guaranæ, ... fʒij.

M. Sig.: Two teaspoonfuls in water every two or three hours.

In passive or hypostatic congestion of the lungs, it may be combined with digitalis with advantage:—

℞ Ergotinæ, ... gr. iv.
Extracti digitalis, ... gr. iij.
Pulv. ipecacuanhæ co., ... gr. xxiv.

M. et ft. pil. no. xij.

Sig.: A pill every three or four hours.

℞ Ergotinæ, ... gr. xv.
Glycerini,
Aquæ destillatæ, ... āā fʒj.
Aquæ acidi carbolici, ... ℥xxx.

M. Sig.: Inject, hypodermatically, from 20 to 30 minims from two to four times a day in hæmoptysis.

COCAINE.*

An ointment containing erythroxyton or hydrochlorate of cocaine is an admirable local remedy in affections characterized by severe pain or distressing itching. The extract of erythroxyton (gr. xxx-ʒj) may be incorporated in an ounce of lard, or the salt of the alkaloid may be used in the proportion of 4 to 8 or 10 grains to the ounce, or as follows:—

* From the advanced sheets of vol. ii of Shoemaker's "Practical Treatise on Therapeutics," now in press.

- R Extracti erythroxyli cocæ, . . . 3ss.
 Creasoti, ... ℥v.
 Ungt. zinci oxidi, ... 3j.
 Ungt. plumbi subacetatis, . . . 3ss.

M. For subacute eczema or psoriasis.

- R Cocainæ, ... gr. x.
 Plumbi carbonatis, ... 3j.
 Pulveris marantæ, ... 3j.
 Ol. eucalypti, ... ℥iv.
 Ungt. zinci oxidi, ... 3j.

M. Useful in acute eczema, dermatitis, burns, and irritable ulcers.

- R Cocainæ hydrochloratis, . . gr. xij.
 Atropinæ sulphatis, . . . gr. j.
 Acidi carbolicæ, ... ℥v.
 Ol. anthemidis, ... ℥iv.
 Ungt. zinci oxidi, ... 3j.

M. For herpes, herpes zoster, dermatalgia, and paræsthesia.

- R Extracti erythroxyli cocæ, . . 3j.
 Zinci carbonatis, ... 3ij.
 Camphoræ, ... gr. x.
 Sulphuris sublimati, . . . gr. xx.
 Ungt. aquæ rosæ, ... 3j.

M. For eczema around the genital organs.

- R Cocainæ hydrochloratis, . . gr. x.
 Mentholi, ... gr. x.
 Bismuth. subnit., ... 3j.
 Ungt. zinci oxidi, ...
 Lanolini, ... āā 3ss.

M. Beneficial in urticaria, herpes, and herpes zoster.

- R Cocainæ hydrochloratis,
 Hydrarg. chloridi mitis, āā gr. x.
 Zinci carbonatis, ... 3j.
 Beta-naphthol,
 Camphoræ, ... āā gr. v.
 Ungt. zinci oxidi, ... 3j.

M. Valuable in infantile eczema.

These ointments are serviceable in dermatitis, acute eczema, dermatalgia, herpes zoster, paræsthesia, urticaria, burns, irritable and painful ulcers. Cocaine ointment allays the pain of ulcerated carcinoma and is beneficially applied to painful hæmorrhoids. On account of its astringent and slightly stimulant action, erythroxyton ointment is sometimes an efficient application in acne and rosacea. An anodyne ointment may be thus composed :—

- R Cocainæ hydrochloratis, . . gr. x.
 Morphinæ sulphatis, . . . gr. ij.
 Atropinæ sulphatis, . . . gr. j.
 Pulveris marantæ, ... 3j.
 Unguenti zinci oxidi, ... 3j.—M.

In the treatment of burns the hydrochlorate of cocaine should be preferably mixed with lanolin, since the latter substance possesses undoubted efficacy in the treatment of this accident.

- R Cocainæ, ... gr. xv.
 Lanolini, ... 3iss.
 Sodii bicarbonatis, . . . 3ij.
 Ol. olivæ, ... q. s.

M. et ft. ungt. mollis.

Cocaine can be employed in the form of a solution according to the following formulæ :—

- R Cocainæ hydrochloratis, . . gr. iij.
 Plumbi acetatis, ... gr. x.
 Glycerini, ... f 3iss.
 Aquæ destillatæ, ... f 3ivss.

M. Sig.: Use as an injection in the urethra in subacute and chronic gonorrhœa.

- R Cocainæ hydrochloratis, . . gr. ij.
 Creasoti, ... ℥viii.
 Glycerini, ... f 3j.
 Aquæ hamamelidis dest., . f 3ij.

M. Sig.: Spray into the nose or throat in simple catarrh, pharyngitis, laryngitis, and in hay fever.

- R Cocainæ hydrochloratis, . . gr. iv.
 Plumbi glyceroli,
 Aquæ hamamelidis dest., āā f 3ij.

M. Sig.: Apply over the surface on old muslin, for burning and itching of erysipelas, poisoning of the skin from various plants, and in sun-burn and superficial heat burns.

- R Cocainæ hydrochloratis,
 Hydrastin. hydrochloratis, āā gr. iij.
 Aquæ rosæ, ... f 3iv.

M. Sig.: Mop upon the skin or apply with old muslin or cotton, for seborrhœa oleosa, urticaria, acne, and rosacea.

DIGITALIS.*

In the treatment of hæmorrhages, digitalis is usefully prescribed in combination, as—

- R Tr. digitalis, ... f 3iss.
 Tr. catechu, ... f 3j.
 Extr. ergotæ fl., . . q. s. ad f 3ij.

M. Sig.: A dessertspoonful every hour or two.

The infusion, however, is usually the most efficient preparation in hæmorrhage :—

- R Plumbi acetatis, ... gr. xl.
 Tinct. opii, ... ℥lxxx.
 Infus. digitalis, ... f 3iv.

M. et ft. sol.

Sig.: Tablespoonful every three hours.

* From the advanced sheets of vol. ii of Shoemaker's "Practical Treatise on Therapeutics," now in press.

Digitalis may also be prescribed for hæmorrhage in phthisis and in the first stages of pneumonia, thus:—

℞ Extracti digitalis, . . . gr. iij.
Pulv. ipecacuanhæ comp., . gr. xxiv.

M. et ft. pil. no. xij.

Sig.: A pill every two or three hours.

In exophthalmic goitre and in congestive headaches, it sometimes succeeds remarkably in removing the symptoms of disease.

Besides the special action above referred to, as a cardiac tonic or current regulator to the circulation, digitalis is the chief reliance in dropsy and serous effusions, owing to its diuretic action. In acute renal dropsy the best effects are obtained by combination with calomel or other mercurial, and with squill, as in the famous Guy's pill:—

℞ Pulv. digitalis, . . . gr. ss.
Pulv. scillæ, . . . gr. iss.
Mass. hydrargyri, . . . gr. iij.

M. et ft. pil.

Sig.: Take one or two at bed-time.

In cases of œdema due to Bright's disease, with scanty, albuminous urine, the following are useful:—

℞ Potass. acetat., . . . ʒvj gr. xl.
Spiritus juniperi, . . . fʒiss.
Inf. digitalis, . . q. s. ad fʒv.

M. Sig.: Give a dessertspoonful every three hours.

℞ Infus. digitalis,
Infus. scoparii,
Infus. buchu, . . . āā fʒij.

M. Sig.: A dessertspoonful every three hours.

℞ Infus. digitalis,
Infus. taraxaci,
Spiritus ætheris nitrosi, āā fʒij.

M. Sig.: A dessertspoonful every three hours.

CONIUM.*

Conium may be prescribed in form of ointment as follows:—

℞ Extracti conii alc., . . . ʒj.
Cocainæ hydrochloratis, . gr. v.
Atropinæ sulphatis, . . . gr. j.
Veratrinæ, . . . gr. xx.
Ungt. aquæ rosæ, . . . ʒj.

M. For neuralgia, chronic rheumatism, gout, and synovitis.

℞ Extracti conii alc., . . . ʒj.
Mentholi, . . . gr. v.
Extracti belladonnæ alc., . gr. x.
Ungt. zinci oxidi,
Lanolin., . . . āā ʒss.

M. For painful cancer, scrofulous glands, herpes zoster, and enlarged mammary glands.

CONVALLARIA.*

Convallaria is of utility, likewise, in the irregularity of the heart dependent upon acute pneumonia, bronchitis, or emphysema, but is ineffective in fatty degeneration of the heart.

℞ Extr. convallariæ flor. fld., . fʒij.
Syrup. aurantii, . . q. s. ad fʒij.

M. Sig.: A teaspoonful to a tablespoonful three times a day. Useful in mitral insufficiency and functional heart disease.

℞ Potassii bitartratis, . . . fʒss.
Extr. convallariæ flor. fld., . fʒiss.
Syr. simplicis, . . q. s. ad fʒiv.

M. Sig.: From one-half to a tablespoonful, in water, three or four times a day. Valuable in general dropsy from heart or kidney disease.

COPAIBA.*

Among the many combinations of copaiba found of service in gonorrhœa and gleet, the author suggests the following:—

℞ Resinæ copaibæ, . . . ʒiiiss.
Oleoresinæ cubebæ, . . . fʒj.
Saloli, . . . ʒiij.
Pepsinæ pur., . . . gr. xl.

M. et ft. capsulæ no. xl.

Sig.: From six to ten a day.

℞ Resinæ copaibæ, . . . ʒiv.
Acidi sulphurici arom., . . fʒij.
Acaciæ, . . . q. s.
Infus. rosæ, . . . fʒviiij.

M. Sig.: A tablespoonful three or four times a day.

℞ Resinæ copaibæ, . . . ʒss.
Extracti glycyrrhizæ fl., . . fʒj.
Spiritus ætheris nitrosi, . . fʒss.
Acaciæ, . . . q. s.
Aquæ cinnamomi, . . . ad ʒviiij.

M. Sig.: A tablespoonful three or four times a day.

℞ Olei copaibæ,
Oleoresinæ cubebæ, . . . āā m℥xx.
Aloini,
Extracti belladonnæ, . . . āā gr. j.
Ol. menth. pip., . . . m℥j.

M. et ft. pilulæ no. xij.

Sig.: From three to six pills a day.

* From the advanced sheets of vol. ii of Shoemaker's "Practical Treatise on Therapeutics," now in press.

THE Medical Bulletin.

JOHN V. SHOEMAKER, A.M., M.D., Editor.
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DANGERS OF OUR STREETS.

OUR present theme relates not to the universally recognized dangers of a city's highways. We shall not dwell upon the broken limbs caused by stumbling over ill-paved sidewalks; fractured skulls due to the fall of building material; injuries received from the wheels of a heavily laden wagon upon a crowded thoroughfare; or even of accident brought about by the tricky banana peel. We are not thinking of the risks which assail our country cousins from "bunco-steerers," nor of the panic which seizes "the street" when the reckless scheme of some unscrupulous speculator has burst. Nor have we now in mind the moral and physical consequences which threaten men from the solicitations of *nymphe de joie*. No; our text is the daily and hourly danger, too seldom and too superficially recognized, which besets every man, woman, and child who ventures upon our streets.

If a City Father be suddenly stricken with facial erysipelas or pneumonia; if his fond wife be prostrated with typhoid fever; his idolized daughter, just budding into womanhood, fall a victim to pulmonary consumption, or his little child be attacked with diphtheria, the physician is anxiously and quickly summoned. The man of science is, for the time, master of the situation, and his commands more or less faithfully and implicitly obeyed. The questions of ventilation, disinfection, and household drainage are eagerly discussed, and the plumber is called in counsel.

But does the City Father, thus brought face to face with disease, properly and fully appreciate the fact that he too, in his sphere, no less than the doctor and the plumber in theirs, has a duty and a responsibility in this matter? Illness must come, and death must come, but

it is equally true that an immense burden of preventable disease is borne by poor humanity. If the vocation of the physician is to care for the sick, his higher and even more important study is to prevent illness wherever possible. On a small scale he endeavors to do this by his advice to individuals. In a wider field he gives his voice and influence in favor of municipal sanitation. The physician will always do his best to cure the City Father or his family. The latter, in turn, should seriously ask himself what it is practicable for him, as an official, to do in order to prevent or limit the spread of disease. The Highway Department may provide complete surface drainage and construct an ample sewer system, but this, however important, is but one end of a great problem of public hygiene. The surface of our roadways should be duly and skillfully cleaned, accumulations of organic filth be removed expeditiously, and, as far as may be, secretly.

The time was, and that within the memory of men by no means aged, when every school-boy in Philadelphia—many of our present councilmen among the number—was taught that his native city was celebrated for the regularity and cleanliness of its streets. The regularity remains, but what has become of the cleanliness? Our housewives do their best and set their maids to work upon the sidewalks, door-steps, and windows with broom, scrubbing-brush, and water-pail. They cling tenaciously to the local tradition. The roadways of the typical American city, however, abound with filth. Rainfalls providentially assist or relieve the street-cleaners, wash the garbage away, and a pleasing contrast is for a brief space presented to the eye of the utilitarian spectator.

But what a pitiable and absurd sight greets the eye of the noon-day promenader upon our most fashionable and crowded thoroughfare. In the middle of the street a wretched figure, dirty clay pipe in mouth, stoops toward the ground, slowly sweeping, with a common hand-brush, the mud and equine excreta into a large canvass bag. One might, at first sight, imagine that the man painfully sought some pearl of great price among the offal. It is, indeed, a spectacle at once ridiculous and disgusting.

At other times we see foul carts, driven by Jehus of half-savage aspect, trail slowly along laden to the brim with semi-liquid mud, which probably spills in the jolting of the vehicle and is left as a trail to mark its progress. On certain days, in sections of the city, a most unsightly collection of ash-barrels, boxes, and pans lines the sidewalks. Principally ashes, the contents of these abominations are, nevertheless, plentifully mingled with "slops," animal and vegetable, and, in certain quarters, the dead bodies of mice, rats, cats, and dogs, and, in fact, every species of *débris*. Along the back alleys the gatherers shout in dissonant tones, "Ash! ash!" while a heated fancy might compare them to the ghouls who, in times of pestilence, have driven similar carts, crying out the while, "Bring out your dead! bring out your dead!"

For a city of the magnitude, wealth, and importance of Philadelphia, these methods are curiously and ludicrously antiquated and inefficient. This place reminds us of a lazy giant, capable, when profoundly stirred, of the most devoted, heroic, and splendid achievements; it is apt to jog along contentedly and placidly from day to day, a creature and slave of habits.

Physicians know and should teach the public that, above all, this question of street-cleaning is not one of taste or even of mere cleanliness in the sense of sightliness. This dirt which is not removed is in reality a menace to every home in the community, from the most humble to the most lofty. In a place where square miles are covered with brick houses standing closely side by side in narrow streets, atmospheric currents have not enough sweep to be a thoroughly efficient means of street ventilation. Dried dust is whirled about here and there, deposited upon the clothing, blown into carriage, car, and house, and inhaled with every breath. Numerous disease-germs are contained in this dust, and many is the case of bronchitis, pneumonia, erysipelas, carbuncle, or septicæmia, obscurely attributed to "catching cold," which really springs from this overlooked source. This, however, is not the chief danger. When we consider the prevalence of pulmonary consumption, the numbers who daily perambulate the streets ejecting sputum swarming

with bacilli, the pulverization and dispersion of these germs, we are appalled at the jeopardy to which we are needlessly exposed. Scarcely a household but has been called upon, or will be called upon, to offer its sacrifice to this fell destroyer. It is melancholy to think how many lives are annually lost to their families, to society, and the productive force of the community by a disease which, though woefully destructive, is yet preventable. We may disinfect our dwelling-houses, but it will not do to leave our streets unguarded. We may shake the rugs, burn the handkerchiefs, and keep water in the spit-box, but we must also reduce the dirt of the streets to a minimum. Street-cleaning should be performed much more thoroughly than it is at present, and it should be more secretly performed. Why need the senses of refined people be offended by garbage and its collectors? Must this work be carried on during those hours precisely in which the streets are most crowded? It should be done during the nights and very early morning hours, before the highways are given up to the stir of traffic. Ash-barrels can be emptied, garbage collected, dust swept up and carted away at night by the aid of lanterns. Expedients are certainly possible by which necessary work can be executed without being a nuisance in its operation. As it is now, ashmen seem to take a fiendish joy in scattering their dirt to the four winds of heaven. If it soil a well-dressed individual, so much the greater sport, perhaps.

After all has been said it must be confessed that an inseparable obstacle to the attainment of reasonable cleanliness of highways exists in the abominable cobble-stones. An abundance of dirt lies constantly in the irregular gaps between these stones. To demand that streets paved with cobble-stones should be kept clean is perhaps to imitate the Pharaoh who ordered the Israelites to make bricks without straw. It is high time that this clumsy paving should be relegated to the past. No class of men can speak more feelingly upon the subject than the physicians of Philadelphia who jolt, jolt over the stones, or lurch from side to side, as their carriages are hurled ever and anon into deep ruts in which stones *formerly* stood. This may do us good and stimulate the liver and

bowels, like horse-back exercise. We are sure it does not do the women good. Even the normal womb—if such now exists—can scarcely bear, without discomfort, these rude shocks. But to the unfortunate sufferers from metritis, cellulitis, ovaritis, and salpingitis, the shocks are painful and even dangerous. The tender spine of neurasthenia, the ill-fed nerve prone to ache, are also roused to quivering sensitiveness by a ride through our streets. Assuredly, an invitation to a ride through Philadelphia must fail to afford unmitigated pleasure to many a lady. The noise is another condemnation of the stones. From time to time we see the street laid down with tan-bark in order to preserve some patient's nervous centres from the din of the street. For once that we see this precaution scores of cases occur in which it were prudently observed. How many a victim of insomnia is robbed of his scanty sleep by the rattle of some belated wagon along the street. It can scarcely be a matter of satisfaction for a wealthy man to fill his stables with blooded horses. Their exercise can hardly be a matter of pleasure to him or his family, and their possession seems rather a matter of state or ceremonial than aught else. Between his residence and the Park are, it may be, miles of rough road, and even our most magnificent highway is only partially paved with asphalt, and is crossed at grade by numerous railway tracks. A physician in this city must hesitate and study routes before he can recommend "carriage exercise" to a convalescent lady.

Cobble-stones are distinctly detrimental to health on account of the dirt and noise which they favor, and the jolting to which they subject those who ride over them. Relics of the past, they ought to be doomed in this city of Brotherly Love. Labor-saving and efficient street-sweeping machines are of little or no use in Philadelphia. They can but "make clean the outside of the platter." We hear much in these days of "rapid transit" and a "new Philadelphia." Among the new features to which we look forward are improved roadways, which, directly and indirectly, would add greatly to the health and comfort of this community. We occasionally see a new street or a new block or two paved with asphalt, but these streets or blocks are scattered here and

there so sparsely and so capriciously that half their advantage is lost.

An asphalt or a wooden roadway is quiet, can be expeditiously swept as clean as a floor, can be expeditiously watered by a cart, being sprinkled just enough to prevent the dust from flying in clouds. The watering-cart facilitates the work of the sweeping-machine. It permits invalids to take pleasant and healthy exercise, renders the labor of draught horses lighter, and protects them from injury, since they fall less frequently and injure themselves less severely. Spite of typhoid fever, tuberculosis, and other preventable ills, the death-rate of Philadelphia is not, for a densely-peopled city, high; but we are very sure that it can be materially reduced by measures of public hygiene, such as we advocate in this article.

CLINICAL AND EXPERIMENTAL STUDIES OF DIABETES MEL- LITUS.

THIS complicated and obscure disease process was the subject of a masterly address by Dr. Pavy, of London, before the Section for Internal Medicine of the last International Congress. The speaker regarded defective appropriation of carbohydrates as the fundamental phenomenon of the malady. The proportion of sugar contained in the urine may be taken as an index of the severity of the disease. The greater the quantity of sugar eliminated, the more serious is, in general, the condition of the patient. The problem which confronts us is, how to prevent the passage of carbohydrates through the liver? If diabetes simply consisted in a loss of carbohydrates and a consequent failure of nutrition, no reason would exist why these elements should not again be supplied to the economy in the effort to improve nutrition. If other alimentary principles were absorbed in sufficient quantity to meet the demands of the organism, the waste of starchy food would entail no peculiar damage. So long as we are able to hinder the passage of sugar through the body the disease is held in abeyance. Pavy has never seen serious consequences so long as the urine is free from sugar. The first effort of treatment must be, by means of a regulated diet, to re-

strain the elimination of sugar. But the goal is to restore the power of assimilating carbohydrates; and until this purpose has been achieved we may speak, indeed, of the arrest but not the cure of diabetes.

In the ensuing discussion Seegen gave a summary of the results of his own investigations. He believes that the liver is constantly forming sugar, not, as Bernard thought, from glycogen, but, from albuminoids and fats. This sugar, elaborated in the liver and thrown into the circulation, is constantly being consumed and destroyed by the tissues. Since the formation of sugar is furthered by a liberal supply of carbonaceous material, it follows that normally almost the entire pabulum is utilized in the formation of sugar. This elaboration, in fact, ranks as one of the most important functions of the body, sugar being so intimately concerned in the generation of animal heat and mechanical power. Glycogen is principally constructed from carbohydrates. In the light of these experimental results Seegen recognizes two forms of diabetes. In one sugar is only excreted when carbohydrates enter into the diet. Even in such cases the liver has lost its power of forming glycogen from the carbohydrates, or, if formed, of turning it to good account. In the second form sugar escapes when not a particle of hydrocarbonaceous food is consumed. This sugar, built up within the economy, serves, by its oxidation, as fuel for work. In this latter variety the cells of the entire organism have lost their power of transforming sugar. These two forms of the disease have, consequently, a very different significance. Life may long be preserved in the first variety, providing that carbohydrates be excluded from the bill of fare, while the second form rapidly carries its victim to his grave. The recognition of these two varieties by Professor Seegen is the outcome of the experience of thirty years and the examination of more than 1000 diabetic patients.

Dujardin-Beaumetz looks upon the new antipyretics and analgesics as constituting a noteworthy improvement in the medicinal treatment of diabetes. He has repeatedly seen a decided decrease of polyuria and glycosuria follow the administration of antipyrin in doses of 2 to 4

grammes ($\frac{1}{2}$ to 1 drachm) daily. Similar results have attended the use of phenacetin, exalgin, and antifebrin. Minkowski spoke of the production by himself and v. Mering of diabetes by extirpation of the pancreas, and the influence of disease of that gland in the genesis of the disease. De Renzi and Reale, of Naples, have pursued a course of experiments in regard to the causation of diabetes, and have found that it may be produced by ablation of several organs. Among these, in the order of their importance, were mentioned the pancreas, duodenum, and salivary glands. They failed to observe glycosuria after every case of removal of the pancreas, this result occurring in only 75 per cent. of the number. Clinical observation has shown that the loss of the salivary secretion gives rise to some of the most important symptoms of diabetes, and these researches fully confirm the fact in various acute and chronic disorders.

The diastatic property of the saliva has recently been made the subject of an investigation by Dr. Romaro Vittorio.* He found that this influence of the saliva was generally lessened in diathetic maladies. This is the case in the advanced stage of diabetes, and the author suggests that chemical examination of the saliva may be capable of throwing light upon the severity of the disease. The constitution of the saliva, gastric juice, and sweat has been studied anew by Ponomaroff, who is unable to agree with the statement of Heller and Frick that in diabetes these fluids contained sugar. When vomiting has been artificially produced bile is mingled with the contents of the stomach. As the bile generally contains sugar, it is probable that an error was made in considering that the sugar was present in the gastric juice, and that it was really derived from the bile. Professor Rosenstein, of Leyden, has carefully observed the digestive function in 10 patients suffering from diabetes, and, as a result, feels himself warranted in drawing the following conclusions: 1. In one class of cases free hydrochloric acid is absent from the gastric juice for a shorter or longer period, and this absence is the result of a neurosis of the

* For these and the succeeding references we are indebted to our valued exchange, the Deutsche Medizinal-Zeitung, November 13, 1890.

organ. 2. In a second class, extensive atrophy of the gastric mucous membrane exists in consequence of an interstitial gastritis. 3. When free hydrochloric acid is persistently absent from the gastric juice, an interstitial inflammation has led to atrophy of the glandular follicles. 4. The diabetic neurosis of the stomach, like absence of the patellar reflex, and other nervous symptoms, does not depend directly upon the severity of the disease as regards the quantity of sugar in the urine, but upon the presence of aceton or diacetic acid. Dr. W. Prausnitz, of Munich, as a result of his experimental studies in fowls, concludes that glycogen is elaborated chiefly, if not exclusively, by the liver, and is by that organ distributed to other portions of the body. The absolute and relative quantity of this substance stored up within the liver is in close dependence upon the size of that organ. The larger the liver, the richer the supply of cane-sugar, the greater is the quantity of glycogen. The larger the liver, the greater is its supply of blood and the larger the amount of glycogen produced. Prausnitz was unable to discover glycogen in the circulating blood of swine killed during digestion. Hence, he conceives that glycogen, as such, is seldom thrown into the blood by the liver, but generally transformed into grape-sugar before entering the circulation.

The valuable experiments of Minkowski and v. Mering have already been mentioned in this journal.* In further communications they announce that, in general, diabetes will not develop if a small piece of the pancreas be left behind, even if that small piece be no longer in connection with the intestine. In 2 cases in which the remnant did not exceed $\frac{1}{12}$ or $\frac{1}{15}$ of the gland, severe diabetes arose. They consider, moreover, that the many failures which have attended the effort to produce experimental diabetes are due to faults in the method of operating. In 18 out of 21 cases they succeeded in producing veritable diabetes with polydipsia, polyphagia, polyuria, and emaciation. Besides sugar the urine contained acetone, acetic and butyric acids. In the 3 negative cases death occurred so soon that the normal urine found in the

bladder had probably been secreted before the operation.

The diabetes which v. Mering produced by the administration of phloridzin has been further studied by Drs. Moritz and Prausnitz. Phloridzin is a toxic glucoside obtained from the root-bark of the apple-, pear-, plum-, or cherry- tree. Not only this substance but also its derivative phloretin give rise to glycosuria irrespective of the diet, and even in famishing animals. The quantity of sugar contained in the urine is high, ranging from 6 to 13 per cent. The absolute amount depends upon the dose of phloridzin administered, and, also, upon the quantity of nitrogenous and starchy food ingested.

In 1884 E. Fischer pointed out that phenylhydrazin enters into combination with aldehydes, ketones, and sugars, forming, with sugars, the so-called azone. Thus, grape-sugar and lævulose give rise to phenylglucosazone, a yellow substance which crystallizes in fine needles and fuses at 204° to 205° C. (399° to 401° F.). Moritz has now obtained from normal urine a substance precisely similar to phenylglycosazon, and fusing constantly at the same temperature (204° to 205° C.). From this he concludes that grape-sugar is contained in normal urine. He demonstrated the existence of a transitory glycosuria due to aliment, by examining the urine of 8 persons shortly after partaking of an abundant meal rich in carbohydrates. Sugar was found in each instance. It usually disappeared in two or three hours, but in one case it persisted till the tenth hour. An interesting observation has been made by Dr. Fritz Schenck, of Bonn, concerning the relation of grape-sugar to the albumens of the blood. Schenck found that when he added grape-sugar to blood, serum, or solutions of the albumens of the blood, only a portion of the sugar could be recovered from the filtrate after coagulation. When the coagulum was washed with water or alcohol until the watery or alcoholic extract contained no trace of a reducing substance, and then boiled with dilute hydrochloric acid, glucose again made its appearance. Under favorable circumstances the quantity of sugar was such that it closely corresponded with that which had disappeared. Therefore, it seems very probable that the

* MEDICAL BULLETIN, March, 1890, p. 102.

apparent loss was due to a combination of the sugar with the albumen of the blood, though the nature of the combination cannot at present be explained. An abstract of the ingenious theory of Professor Lepine, concerning the pathogeny of diabetes, has already been given in our columns,* and need not now be rehearsed. Other communications have followed from his pen. One, relative to a proposed plan of treatment, may be briefly cited. An elderly woman, who had long suffered from diabetes, and whose urine had a sour smell, had epileptiform attacks, hallucinations, elevated temperature, headache, and great debility. An intra-venous injection of bicarbonate of sodium failed to afford relief, and coma supervened, in which the patient died. The urine, after the injection, was of neutral or feebly alkaline reaction, and contained but half as much sugar as before. At the autopsy fatty degeneration of the pancreas was observed. Lepine believes that the injection aggravated the cerebral symptoms and hastened death.

A valuable clinical communication has been made by Professor Rosenbach, of Breslau. The facts given by this author are unimpeachable, since they are drawn from an exact examination of the urine of all cases which came under his care during a period of ten years, both in private and public practice. The writer has, in this manner, satisfied himself of the extremely common occurrence of mellituria among all classes of people. In a considerable number of cases hæmorrhage from the stomach or bowels coincided with the appearance of sugar in the urine. These hæmorrhages were not due to an ulcer, but came from the mucous membrane. Bleeding, not occasioned by an ulcer or hæmorrhoids, always led Rosenbach to suspect the existence of diabetes. Bleeding from the kidneys and bladder also possesses the same, though not as high, diagnostic value. After diabetes has existed for some years the liver progressively increases in size. After the organ has obtained a certain volume, a greater or less quantity of albumen generally appears in the urine, while the sugar temporarily disappears, or, at least, diminishes. In some cases ascites follows, and sudden death takes place from profuse gastric and intestinal

hæmorrhages. The albuminuria represents an attempted regulation by which unutilized nitrogenous material shall be removed. Faulty assimilation of albumen is now superadded to the faulty elaboration of carbohydrates. The system must struggle with a double deficit. These examinations confirmed the generally held opinion that prolonged mental strain begets diabetes. A not inconsiderable but fugitive glycosuria was observed after indulgence in champagne, various kinds of Bavarian beer, pure honey, and fruit.

In connection with the literature of pancreatic diabetes a case reported by J. T. Collier may be mentioned. A man, aged 48 years, though pale and weak, had regarded himself as fairly healthy, but had suffered for several years from flatulent dyspepsia and pain after eating. Finally, he began to emaciate rapidly, and sugar was found in the urine. After six weeks of antidiabetic regimen the sugar had almost completely disappeared, but failure continued, and a deeply situated tumor was discovered in the abdomen. The man died suddenly, and the head of the pancreas was found carcinomatous. At an opposite point the anterior wall of the stomach was infiltrated, and a small perforation had occasioned death.

CORRESPONDENCE.

THE KOCH HYPODERMIC SYRINGE.

THE new method of treatment of various forms of tuberculosis, introduced by Dr. Robert Koch, of Berlin, has been enthusiastically taken up by the press, both lay and medical, and has been very favorably received by the profession, who have it now under trial under rigid tests and with all the scientific appliances and skill that its assumed importance warrants and the claims made for its demand. It will certainly require a twelve-month—perhaps several years—to fully determine the exact position of the new remedy in therapeutics, which promises to be an important one, though certainly not the panacea that the public press pronounced it upon its first appearance. Whatever may be the fate of the remedy, the technique of the method is perfect. For the treatment of a septic disease, appliances absolutely aseptic are necessary. Here the laboratory comes forward and confers a boon upon practical

* MEDICAL BULLETIN, April, 1890, p. 132.

medicine by presenting us with an aseptic hypodermic syringe.

The small but essential instrument used by Dr. Koch, and made under his orders and direct supervision, one of which has been placed in my hands through the great kindness of the importers and agents of the manufacturer in this country, the Messrs. Eisner & Mendelson Co., of New York, consists of several parts, easily separated to be cleaned and easily readjusted for use. First the barrel of the syringe is of glass, as usual, but it is thicker and stronger than in the ordinary instrument of the shops. It is also about the usual size and shape, except that it is narrowed abruptly near one extremity, and presents a ground and slightly roughened surface, upon which an ordinary hollow needle of steel or platinum is accurately fitted by a friction-joint. The exterior of the upper extremity is also ground to a short distance, so as to permit the application of a silver-plated cap, about 1 inch in length, bearing upon its upper end a small rubber ball. The cap being hollow, compression of the elastic ball



forces its contents (air) through the metallic socket, or cap, into the glass barrel, displacing the contents of the latter, in turn, through its inferior extremity and the needle, when *in situ*. A peculiar feature of the syringe not yet mentioned is a small stop-cock, or valve, in the metallic connection between the rubber ball and the hypodermic syringe proper. This can be turned after the barrel of the instrument is filled, so as to prevent premature discharge of its contents, and, on the other hand, when opened, the ball can be compressed, forcing the contents of the syringe through the needle; now, if the valve be again turned, the ball will expand and resume its shape, without drawing back the injected material through the needle. The glass barrel has a capacity of 1 cubic centimetre, and is graduated by a scale cut into one side, in tenths.

The special feature of the syringe that constitutes it a new departure and a decided improvement over the usual forms of this instrument is, of course, the fact that it does away with the piston and plunger, which, coming in contact with the fluids employed, is constantly contaminated, and, as it is made of leather or similar material, it cannot be sterilized in the only effectual way, by heat. The Koch syringe can

be instantly taken apart, and the essential parts boiled in water, or treated with antiseptic solutions so as to completely sterilize them and preclude any possibility of their infecting a patient or of carrying infection from one to another. The instrument, accompanied by two needles, is in a small morocco case, from the end of which the rubber ball projects.

With an instrument of this form, all the ordinary uses to which the hypodermic syringe is applied can be met equally as well, and with absolute security against infection. As abscesses and cellulitis, or erysipelas, have been traced to a contaminated hypodermic syringe, these accidents can be entirely avoided by Koch's instrument, which appears to be the best hypodermic syringe for all purposes to which such instruments are applied in ordinary medical practice, and probably the most convenient, since it is always in order and there are no valves to get dry, or, on the other hand, to keep moist and breed bacteria.

FRANK WOODBURY.

218 S. 16TH ST., PHILA.

MEDICAL NEWS AND MISCELLANY.

DR. SARGENT, of Bryn Mawr, Pa., died on January 11th, aged 56 years.

DR. H. ERNEST LAPLACE has been elected Secretary of the Medico-Chirurgical College.

DR. SAMUEL WOLFE has removed to 1532 Diamond Street, Philadelphia.

THE Philadelphia Dental College has just issued a handsome and well-illustrated announcement for 1891.

THE Medical Register for New England is edited by Dr. Francis H. Brown, 283 Washington Street, Boston.

DR. JAMES F. STONE has a well-equipped gymnasium for children at 1806 Green Street, Philadelphia.

DR. HENRY M. MARTIN, a retired surgeon in the United States Navy, died recently in this city.

DR. GRENFELL BAKER, who was family physician to the late Sir Richard Burton, is engaged on a biography of the distinguished traveler.

DR. D. G. BRINTON was given a reception, January 8th, by the Numismatic and Antiquarian Society, on the opening of their new hall.

DR. R. A. RANDALL was elected Clinical Professor of Otology, at the University, to succeed Dr. George Strawbridge.

DR. WILLIAM O. W. HALL, son of Dr. David Hall, of Lewees, Del., has removed his residence to No. 352 Decatur Street, Brooklyn, N. Y.

OLD LACE.—An Eastern Kentucky man calls his wife "Old Lace," because she has ruined her health with a tight corset.

Dr. PETER McCahey, of Philadelphia, has devised an atmospheric tractor for application by obstetricians.

Dr. BLAIN, an old Philadelphia student, passed through this city recently on a trip to Texas.

Dr. J. C. BREECE, of Shenandoah, in this State, a graduate of the class of 1889, of the Medico-Chirurgical College, died suddenly last month from tetanus.

PROFESSOR KOCH has been made an Honorary Citizen of Berlin. He is the fourth man to enjoy that distinction. His colleagues are Prince Bismarck, Count Moltke, and Dr. Henry Schliemann.

THE annual meeting of the contributors of the Medico-Chirurgical Hospital of Philadelphia, held this month, showed an increased activity, especially financially, for the institution.

ALUMNI MEETING.—A large and very representative gathering of the Alumni of the Medico-Chirurgical College was held in the arena, January 16th.

Dr. BAXTER'S SUCCESSOR.—The President has appointed Colonel Charles Sutherland, Surgeon, to be Surgeon-General, with the rank of Brigadier-General, vice J. H. Baxter, deceased.

TUBERCULOSIS AND THE KOCH TREATMENT.—Dr. John H. Musser delivered a lecture before the Young Men's Christian Association of this city on the Koch treatment of tuberculosis, January 23d.

Dr. JOHN A. REYBURN, of Elkhart, W. Va., recently one of the resident physicians of the Medico-Chirurgical Hospital of Philadelphia, was married, on January 7th, to Miss Margaret Kelly of this city.

Dr. EPHRAIM CUTTER, President of the New York Branch of Society of Science, Letters, and Art, of London, recently delivered an address to the members in New York City on "The Relations of Medicine and Music."

Dr. RALPH STOCKMAN of Edinburgh, Scotland, has been appointed External Examiner in Materia Medica and Pharmacy, and in Pharmacology and Therapeutics, in succession to Dr. Mitchell Bruce, who has resigned.

CHARITABLE BEQUESTS.—Dr. William H. Bennett, physician in charge of St. Christopher's Hospital, of Philadelphia, for Sick Children, acknowledges the receipt of \$3000 from Mrs. Caroline G. Tait, and of \$3000 from Miss Rebecca Gibson.

PHILADELPHIA ACADEMY OF SURGERY.—The annual meeting was held at the hall of the College of Physicians, Thirteenth and Locust Streets, Monday evening, January 5th, at which time the annual oration was delivered by Dr. William G. Porter, on "The Progress of Modern Surgery in Twenty-five Years."

THE EPISCOPAL HOSPITAL.—At a meeting of the Board of Managers of the Episcopal Hospital, held last month, Dr. G. Oram Ring, Chief of the Ear and Throat Department of Beacon Dispensary, and Assistant-Surgeon of Wills' Eye Hospital, was elected Ophthalmic and Aural Surgeon of the institution.

INJECTIONS OF THE LYMPH.—The Board of Health of Vienna has decreed that every case of lymph inoculation is to be notified to the authorities, and both physician and patient carefully watched. In every instance a declaration as to the origin of the lymph is to be made with the greatest precision and detail.

DISPENSARY FOR WOMEN'S DISEASES.—A dispensary for the treatment of the diseases of women amenable to electricity has been opened at 1632 Cherry Street, Philadelphia, under the charge of Drs. G. Betton Massey and Horatio R. Bigelow. Physicians are invited to bring or send suitable cases on Mondays, Wednesdays, and Fridays, at 3 P.M.

PREVENTION OF CONCEPTION.—The Detroit Medical and Library Association recently concluded that general contention was that the practice is proper and right, and it was also held that the prevention could be accomplished mechanically without injury to either the man or the woman. There were but few opposed to this view.—*Medical Age*.

THE PRESCRIPTION.—The first number of this bright, neat, handy, and well-arranged journal has just been published. It abounds in practical hints and matters of interest, and reflects much credit upon the editor, Dr. William C. Wile, of Danbury, Conn., the home of its publication. The printing company have printed and bound The Prescription in a most acceptable form for the busy physician.

IN KOCH'S LABORATORY.—Passed Assistant Surgeon Kinyoun of the Marine-Hospital Service, who was recently sent by the Marine-Hospital Bureau to Berlin to enter Koch's laboratory, reported by cable, January 7th, his arrival, and asked for authority to purchase the necessary apparatus. The authority was immediately granted. Dr. Kinyoun will remain in the laboratory three months.

THE NEW YORK ACADEMY OF MEDICINE.—At the meeting held at 17, 19, and 21 West 43d Street, of the Section on Obstetrics and Gynæ-

cology, Thursday evening, January 22d, papers were read on "Under what Conditions may Electricity be of Positive Service to the Gynecologist," by A. F. Currier, M.D., and "The Treatment of Menorrhagia and Metrorrhagia by the Galvano-Cautistic Action of the Positive Pole," by A. H. Goelet, M.D.

JEWISH HOSPITAL.—The Twenty-sixth Annual Report of the Jewish Hospital of Philadelphia shows that during the year just ended much success has attended the efforts of the members. The report of the resident physician shows that 2294 patients were treated, 383 in the hospital and 1911 in the dispensary. Of those in the hospital, 190 were Israelites and 153 of other sects, 31 having been in the institution at the beginning of the year.

CONGRESSES IN RUSSIA.—The International Congress of Anthropology and Prehistoric Archaeology will meet at Moscow, on August 13th to 20th, 1892. The organization will be under M. Bogdanow, rector of the University of Moscow, and M. Kœhler has said he will contribute 5000 roubles. A Congress of Zoology will also be held; it will begin on August 22d. There will be a special ethnographic, anthropological, and zoological exhibition in connection with both Congresses.

GOOD ADVICE.—There used to be a piece of advice given by old-time lecturers on health that in cold weather, and especially in a dusty atmosphere, people should keep their mouths shut when out of doors, and breathe through the nose. The air is better warmed in its passage to the lungs if taken thus than if taken otherwise. The particles of dust, also, are less likely to get into the lower air-passages by way of the nose than by the mouth. There was good sense in the advice of the old-time lecturers on this subject.

MINUTE PARASITES.—In speaking of the minute parasites which are found in the hairy part of the tiger's foot, a scientist says: "They constitute one of the most wonderful curiosities I know of in the animal world. The parasites are so small as to be almost invisible to the naked eye, and yet each is a perfect counterpart of the tiger,—head, ears, jaws, legs, claws, body, tail,—all are there. You may think this is a big story, but look the subject up and see if it is not so."

THE LYMPH INJECTIONS AT THE MEDICO-CHIRURGICAL HOSPITAL.—Prof. H. Ernest Laplace, since his return from Koch's laboratory and the Berlin Hospitals, has been injecting the lymph to a number of cases of tuberculosis in the Medico-Chirurgical Hospital with the most gratifying result. In an old case of lupus, the impression upon the diseased tissue has been

marked, even after a few injections. No bad or unpleasant results have followed in the hospital as yet from the injections.

THE Medical Society of the State of New York will hold its Eighty-fifth Annual Meeting on February 3d, 4th, and 5th, in the City Hall, at Albany, commencing at 9.30 A.M., Tuesday, and ending at noon, Thursday. Communications relating to the presentation and reading of papers, or to any changes in the provisional programme, should be addressed to the Business Committee before the 25th day of January,—Herman Bendell, 178 State Street, Albany; Seneca D. Powell, 12 West Fortieth Street, New York; James D. Spencer, Watertown.

DR. EDWARD C. HARWOOD died in New York, January 20th, in his 52d year. He was born in Bennington, Vt., and graduated from Bellevue Hospital Medical College in 1860, and later from the New York Ophthalmic Hospital. Dr. Harwood took a post-graduate course in Europe, and in 1875 was a delegate from the American Medical Association to the Brussels International Medical Congress. He was made Honorary President of that body. Dr. Harwood was associated with Prof. W. A. Hammond and Dr. E. C. Spitzka in the asylum-reform movement years ago. He was a medical author of reputation, and his latest work, "The Relation of a Physician to the Commonwealth," attracted general attention.

HOSPITAL FOR WOMEN.—The West Philadelphia Hospital for Women, Thirty-fourth and Spring Garden Streets, Philadelphia, held its annual meeting last month. The report shows the number in the house at that time to be 5; treated at the dispensary, 693; house-patients, 476.

The treasurer's report shows a balance on hand of \$2516.75.

Miss Anna Jeanes offered to donate \$10,000 to the hospital in order to provide better accommodations for the patients.

The following officers were elected: Dr. E. H. Comly Howell, President; Miss Pierce, Vice-President; Miss Stirling, Second Vice-President; Mrs. F. B. Foulke, Secretary.

LAPLACE ON KOCH LYMPH.—Prof. H. Ernest Laplace, who recently returned from Berlin with several phials of Koch lymph, delivered, in the arena of the Medico Chirurgical Hospital, a lecture upon the subject, the middle of January, before the combined medical and dental classes, every available seat and all the standing-room in the amphitheatre being occupied. Dr. Laplace, in his modest yet eloquent manner, drew forth again and again, the enthusiastic applause of his immense audience as he graphically described the laboratory and the work of his great master.

During the lecture a severe case of lupus was injected with the lymph in the presence of the class.

THE COLUMBIA CYCLE CALENDAR.—By far the most valuable business calendar for 1891 is the Columbia Cycle Calendar and Stand, issued by the Pope Manufacturing Company, of Boston, Mass. It is in the form of a pad containing 366 leaves, each leaf having on it date, day of week, day of year, and number of days to come, a paragraph pertaining to cycling or some kindred subject. The leaves are fastened only on the end, so that each entire leaf can be exposed. The stand is made of stained wood, brass mounted, with pencil-holder and pen-rack. Although this is the sixth year of the calendar, the matter is fresh and new, the larger number of paragraphs having been specially written for this purpose.

THE REPORT OF PROFESSOR KOCH'S PHILADELPHIA STUDENT.—We print, in this issue of the BULLETIN, the admirable report of Prof. H. Ernest Laplace upon his visit to his old master in Berlin, and his investigation of the treatment of tuberculosis by Koch's lymph, after an examination of many thousands of cases in the great hospitals of Berlin. Professor Laplace gave a moderate, conservative, and thorough view of the work and the accomplishment of the great scientist—the discoverer of the germs of cholera and of tuberculosis. We would urge our readers who have simply read here and there the expression and views of those who know little or nothing of laboratory work or the subject of bacteriology to carefully examine this interesting report.

MEDICAL AND DENTAL DIRECTORY.—Geo. Keil, 1715 Willington Street, Philadelphia, is arranging to publish a directory of physicians and dentists of Pennsylvania, New Jersey, and Delaware. He desires to announce as follows:

The Medical and Dental Intelligencer will contain, in a condensed form, all the information relative to the associations, colleges, hospitals, special and general dispensaries, homes, etc. To these will be added other matters which are deemed of such interest to the profession that each physician and dentist will find it to his advantage to retain the work at hand for ready reference.

Its list of National and State medical and dental organizations, giving list of officers, time and place of meeting, and post office address of physicians and dentists, their office hours (in cities), school of graduation and year, will be complete to date of issue.

THE MATTISON PRIZE.—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of \$400 for the best paper on

"Opium Addiction as Related to Renal Disease," based upon these queries:—

Will the habitual use of opium, in any form, produce organic renal disease?

If so, what lesion is most likely?

What is the *rationale*?

The contest is to be open for two years from December 1, 1890, to either sex, and any school or language.

The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a New York medical journal, Brooklyn Medical Journal, and Journal of Inebriety.

Other papers presented are to be published in some leading medical journal, as their authors may select.

All papers are to be in possession of the Chairman of Award Committee on or before January 1, 1893.

The Committee of Award will consist of Dr. Alfred L. Loomis, President New York Academy of Medicine, Chairman; Drs. H. F. Formad, Philadelphia; Ezra H. Wilson, Brooklyn; George F. Shrady, and Jos. H. Raymond, editor Brooklyn Medical Journal.

GERMAN HOSPITAL.—The report just made shows that the number of patients remaining in the hospital at the end of 1889 was 158. During 1890, 1721 were admitted, making the total 1879. Of this number 115 died, 1677 were discharged as cured or improved, and 87 remained in the hospital at the close of 1890. The difference between the numbers at the close of the years mentioned is accounted for by the removal of the marine patients, and also by the transfer of children to the Children's Hospital in the Mary J. Drexel Home.

In the dispensary there were 5167 new cases reported, and 19,177 visits by patients during the past year, many of the cases being of such a nature that the patients were admitted to the hospital. The dispensary in the Children's Hospital had also a large and growing class of patients.

REGULATIONS OF THE VOICE.—"The voice of a public speaker," said the professor of elocution, "should be in tone and keeping with his theme. The lecturer on ordinary subjects should have a well-modulated voice, which must never go beyond a narrow range. The after-dinner speaker has a larger scope, and may change from one key to another. The impassioned orator may thunder like Demosthenes, who 'fulminated over Greece and shook the arsenal.' No strict rule for the regulation of the voice can be laid down for all men or for all occasions or subjects." The professor of elocution himself has his vocal chords finely trained.

E PARVO MULTUM:*

THE TRAGICAL AND LAMENTABLE FATE OF AN
ERRANT BACILLUS KOCHII: AN HYSTERICO-
BIOGRAPHICAL, LABORATORIOUS AND EPICAL
EPISODE DONE INTO POETRY OF THE PRE-
SENT DAY.

By KATISHA KATZENJAMMER,

Of the Bacteriological Institute, etc.

[Translated from the Japanese.]

A little spore in a culture grew,
Listen to my tale of woe!
Imbedded in a mass of glue,
Till a full-fledged bacillus it sprang into view.
Listen to my tale of woe!
Now, day by day its ambition grew;
Listen to my tale of woe!
Like the witch in Macbeth, who made the stew,
It said to itself, "I'll do! I'll do!"
Listen to my tale of woe!

CHORUS (at discretion).

It saw its chance in a day or two;
Listen to my tale of woe!
A draught of wind through the laboratory blew,
And out of a window the bacillus flew.
Listen to my tale of woe!
In a neighboring orchard a little peach grew;
Listen to my tale of woe!
The little bacillus came there too,
And Johnny Jones with his sister Sue.
Listen to my tale of woe!

CHORUS (at discretion).

Now, they ate the peach of emerald hue,
Listen to my tale of woe!
And swallowed the little bacillus too,
Which well in life its mission knew.
Listen to my tale of woe!
Now, the doctor was called to attend them two,
Listen to my tale of woe!
Who took from his pocket his microscope true,
And brought the bacillus into view.
Listen to my tale of woe!

CHORUS (at discretion).

He said, "Here's the cause of this cry and hue,"
Listen to my tale of woe!
For the comma-bacillus well he knew;
And he stained it red and he stained it blue.
Listen to my tale of woe!
In Johnny's corpse was a peach-stone or two,
Listen to my tale of woe!
In Susie's abdomen a little glue;
"Ah! here is infection and zymosis too,
'Tis sad to say; Boo-hoo! Boo-hoo!"
Listen to my tale of woe!

CHORUS (at discretion).

Now, all kind friends my advice to you,
Listen to my tale of woe!
Is when you are walking with a maiden true,
Avoid the peach of emerald hue;
Listen to my tale of woe!
And if, like Adam, you are tempted too,
Listen to my tale of woe!
Remember the fate of John and Sue,
Who ate the peach of emerald hue,
And the wicked bacillus that got stained blue.
Listen to my tale of woe!

CHORUS.

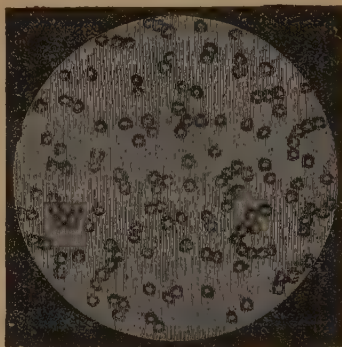
Hard trials for them two,
Johnny Jones and his sister Sue,
And the peach of emerald hue,
Also the comma-bacillus too.
Listen to my tale of woe!

BOVININE.—Bovinine has always been found sweet and palatable after months of exposure during the slow consumption of a single bottle. The universal testimony of physicians and patients is that its acceptability to the mouth and stomach is a point pre-eminently favorable to this nutrient.

In passing beyond this point, we are not so well furnished with comparative analytical data, except the two prominent instances last compared. But it is enough, on the one hand, that digestibility and even wholesomeness can scarcely

Taken by Prof. R. R. Andrews, M.D., of Harvard College.

A DROP OF BOVININE.



"Showing the blood-corpuscles intact, retaining all the plastic and vitalizing properties of the raw-food extracts so indispensable to the proper nourishment of the body in sickness or in health."

THE IMITATION.



Showing broken-down, disintegrated corpuscles, coagulum, vegetable matter, etc., of little or no value as food.

be expected where there is a perceptible taint of decay. On the other hand, our observation proves, what a vast array of medical testimony proclaims, that the most delicate alimentary conditions are perfectly suited by bovine, so that perfect assimilation and pure nourishment are practically insured, even to the full extent of its extraordinary nutritive composition.

But, after all, easy digestibility, which is the highest aim of alimentary preparations in the ordinary sense, is little to say of bovine. It possesses a character strictly unique, beyond that of digestibility, in being replete with the un-

* Chanted at the meeting of the Flint Club, of Baltimore, January 7, 1891. The President, Dr. George H. Rohé, in the chair.

changed and living blood-corpuscles of the beef. These supercede digestion itself, and enter by direct absorption into the blood, whether taken by the mouth or by enema. The value of such a nutrient power as this—equivalent to transfusion of blood—is literally immeasurable, and its work often borders on the miraculous, in systems moribund with alimentary impotence and exhaustion.

Ocular demonstration of the profuse corpuscular contents of bovine is afforded by the microscope, from which the subjoined enlargement of a drop of the liquid was photographed.

The second cut shows the disorganized and broken-down corpuscles, in mere splashes, as they appear sparsely, if at all, in the food nearest approaching bovine as an imitation.

—*The Sanitary Era.*

TO REGULATE THE PRACTICE OF MEDICINE.—An Act to regulate the Practice of Medicine and Surgery, to establish a State Board of Medical Examiners and Licensers, to define the powers and duties of such Board, the qualifications of applicants for license, the manner of licensing and making an appropriation for said Board.

Whereas, The safety of the public is endangered by incompetent physicians and surgeons, and due regard for public health and the preservation of human life demands that none but competent and properly-qualified physicians and surgeons shall be allowed to practice their profession;

Section 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by authority of the same, that within one month after the passage of this Act the Governor shall appoint a State Board of Medical Examiners and Licensers consisting of nine members, three to serve for one year, three for two years, and three for three years in the first instance, and thereafter annually the Governor shall appoint three members to serve for three years in place of those whose terms then expire. The said persons so appointed shall be graduates of some legally-chartered college or university having the power to confer medical degrees, citizens of the United States and of this Commonwealth who shall have been in the active practice of medicine or surgery for a period of not less than ten years, but no two of whom shall be residents of the same county and none of whom shall be members of the faculty or staff of any medical school or university. Each member of said Board shall receive a certificate of appointment from the Governor, and shall file the same within twenty days with the Prothonotary of the Court of Common Pleas of the county in which said member is registered under existing law.

Sec. 2. The said Board shall be known by the name and style of the State Board of Medical Examiners and Licensers of the Commonwealth of Pennsylvania, and shall have a common seal, and may make and adopt all necessary rules and regulations and by-laws not inconsistent with the Constitution and laws of this Commonwealth or of the United States, and shall have power to locate and maintain an office within this State for the transaction of business. Five members of the said Board shall constitute a quorum for the transaction of business.

Sec. 3. Every appointment to fill a vacancy or vacancies in said Board shall be for the unexpired term, and the said vacancy or vacancies shall be filled by the Governor within sixty days after notification of the same by the Board, and he shall have power to remove any member of said Board for criminal, scandalous, or dishonorable conduct.

Sec. 4. The said Board shall organize at Harrisburg within three months from the date of their appointment, and shall elect from its own number a President and Secretary who shall also act as Treasurer, both of whom shall hold their offices for one year, or until their successors are chosen.

Sec. 5. The members of said Board shall each receive a salary not exceeding three hundred dollars per annum, to be paid out of the fees for examination. The Secretary and Treasurer shall receive an additional salary, to be fixed by the Board, and shall file with the President of the Board a bond in the sum of one thousand dollars, conditioned for the faithful performance of his duties. The necessary expenses of the said Board shall also be paid out of the fees except as provided in Section 12 of this Act, and any balance remaining from the fees, after the disbursements herein specified, shall be paid into the treasury of the Commonwealth.

Sec. 6. The said Board shall examine all applicants for license to practice medicine or surgery in this Commonwealth who are properly qualified according to the provisions of Section 7 of this Act, and no one shall be excluded or rejected on account of adherence to any special system or school of practice. It shall hold two stated meetings in each year, one at Pittsburgh and one at Philadelphia, respectively, and may hold special meetings at such times and places as it may deem proper. All examinations, when practicable, shall be conducted in writing, and all examination-papers, together with the reports and action of the Examiners thereon, shall be preserved among the records of said Board for a period of five years, during which time they shall remain open for inspection at the office of the said Board.

The applicants shall be examined in anatomy, physiology, chemistry, toxicology, pathology

hygiene, materia medica, and therapeutics, principles and practice of medicine, surgery, and obstetrics, and each applicant, upon receiving from the Secretary of the Board an order for examination, shall draw by lot a confidential number, which he or she shall place upon his or her examination-paper, so that when said papers are passed upon by the Examiners the latter shall not know by what applicant said papers have been prepared, and upon each day of examination all candidates shall be given the same set of questions. Provided that any candidate for examination may elect the system of materia medica and therapeutics in which he or she shall be examined.

Sec. 7. Any person paying twenty dollars to the Secretary of said Board, and on presenting satisfactory proof of being over twenty-one years of age, and of good moral character, and of having received a sufficient preliminary education, as defined by said Board, and a diploma from some legally-incorporated medical college or university having authority to confer degrees in medicine, shall be entitled to examination by the said Board, and in case of failure at any examination shall have the privilege of subsequent examinations without the payment of an additional fee. Each applicant who shall have passed a satisfactory examination shall receive from the said Board, under seal, a license to practice medicine and surgery in the Commonwealth of Pennsylvania, and the said Board may at its discretion grant licenses, without examination, to persons holding licenses from similarly-constituted boards of examiners or boards of health in other States.

Sec. 8. The Secretary shall record, in a book to be kept for this purpose in the office of the said Board, the name, age, sex, residence, date, and place of examination, the examination number, the examination average on each branch, the general average, and date of issue of license, in case such license is granted. Said book shall be open to public inspection, and on or before the last day of December of each year the said Board shall publish, or cause to be published, a list of the names and addresses of such persons as shall have received licenses from the said Board within twelve months immediately thereto preceding.

Sec. 9. After the first day of July, Anno Domini one thousand eight hundred and ninety-one, no person shall enter upon the practice of medicine or surgery in the State of Pennsylvania unless he or she has complied with the provisions of this Act, and shall have exhibited to the Prothonotary of the Court of Common Pleas of the county in which he or she desires to practice medicine or surgery a license duly granted to him or her by the said State Board of Examiners and Licensers, whereupon he or she shall be

entitled, upon payment of one dollar, to be duly registered in the office of the Prothonotary of the Court of Common Pleas in said county, and any person violating any of the provisions of this Act shall be guilty of a misdemeanor, and, upon conviction thereof in the Court of Quarter Sessions of the county where the offense shall have been committed, shall pay a fine of not less than one hundred dollars nor more than five hundred dollars for each offense, one-half of which fine shall be paid to the prosecutor.

Sec. 10. Nothing in this Act shall apply to commissioned medical officers of the United States Army or Navy, or of the United States Marine-Hospital Service, nor to any member of the house or resident staff of any legally-chartered medical college or university or hospital during his term of service therein, nor physicians of other States meeting duly registered physicians in this State in consultation, nor to those practicing dentistry exclusively. And nothing in this Act shall be construed to prohibit the practice of medicine and surgery within this Commonwealth by any practitioner who shall have been duly registered before the first day of July, Anno Domini one thousand eight hundred and ninety-one, according to the terms of the Act entitled "An Act to provide for the registration of all practitioners in medicine and surgery," approved the eighth day of June, Anno Domini one thousand eight hundred and eighty-one.

Sec. 11. For the purpose of this Act, the words "practice," "medicine," or "surgery" shall mean to treat, operate on, or prescribe for any physical ailment of another. But nothing in this Act shall be construed to prohibit service in cases of emergency or the domestic administration of family remedies.

Sec. 12. The sum of one thousand dollars, or so much thereof as may be necessary, is hereby appropriated to meet the necessary and legitimate expenses of the said Board for the year Anno Domini one thousand eight hundred and ninety-one.

Sec. 13. All Acts or parts of Acts of Assembly inconsistent herewith shall be and are hereby repealed.

Dear Doctor: At a meeting of the State Medical Society at Pittsburgh, in June last, a Committee on Medical Legislation, consisting of the presidents of the different county societies throughout the State, was appointed. This Committee met at Harrisburg, September 17, 1890, and, after consultation, appointed an Executive Committee of seven to draft a proper bill and present it to the meeting of the General Assembly in January next. This bill has been drawn and we inclose you a copy. As to the necessity of the passage of a law regulating the practice of medicine in this State, it is no longer necessary to argue: when we consider the fact that many of our sister

States have adopted such laws, and that 20 per cent. of applicants for license before those Boards have failed, it must be patent to all that we receive more than our just proportion of those who are incompetent to practice medicine.

While the bill may not suit each individual member of our profession, it is, after due deliberation, thought to be the best that we could ask at this time, and we appeal to the members of our profession throughout this State to give it their support and see to it that their individual influence is used with their representatives for its passage.

H. G. McCORMICK, *Chairman*, Lycoming.
W. S. FOSTER, *Secretary*, Allegheny.
J. F. ROSS, Clarion.
J. W. MOORE, Northampton.
W. T. WILLIAMS, Schuylkill.
S. L. KURTZ, Reading.

Executive Committee.

Presidents of the County Societies: Adams, A. P. Beaver, Fairfield; Allegheny, W. S. Foster, Pittsburgh; Armstrong, J. A. Armstrong, Lynchburg; Beaver, H. M. Shellenberger, Rochester; Bedford, S. H. Gump, Bedford; Berks, S. L. Kurtz, Reading; Blair, G. F. Arney, Altoona; Bradford, C. L. Stevens, Athens; Bucks, J. N. Richards, Falsington; Butler, N. M. Hoover, Butler; Cambria, J. C. Sheridan, Johnstown; Carbon, W. L. Kurtz, Weissport; Centre, Thos. Tobin, Stormstown; Chester, J. K. Evans, Malvern; Clarion, J. Frank Ross, Clarion; Clearfield, S. J. Miller, Ansonia; Clinton, J. H. Hayes, Lock Haven; Columbia, P. Zimmerman, Numidia; Crawford, J. K. Roberts, Custards; Cumberland, J. J. Koser, Shippensburg; Dauphin, W. H. Beane, Middletown; Delaware, Wm. B. Ulrich, Chester; Elk, S. S. Smith, Emporium; Erie, A. Thayer, Erie; Fayette, J. W. Worrell, Brownsville; Franklin, C. F. Palmer, Chambersburg; Greene, J. T. Iams, Waynesborough; Huntingdon, J. C. Stever, Three Springs; Indiana, Wm. B. Ansley, Saltsburg; Jefferson, J. W. Foust, Reynoldsville; Lancaster, H. A. Mowery, Marietta; Lebanon, J. K. Uhrich, Annville; Lehigh, W. H. Hartzell, Allentown; Lawrence, R. A. Wallace, New Castle; Luzerne, G. W. Guthrie, Wilkesbarre; Lycoming, H. G. McCormick, Williamsport; McKean, F. H. Murdoch, Bradford; Mercer, M. M. Magoffin, Mercer; Mifflin, T. H. Van Valzah, Lewistown; Montgomery, Alice Bennett, Norristown; Montour, N. W. Voorhees, Danville; Northampton, J. W. Moore, Easton; Perry, W. R. Cisna, Icksburg; Philadelphia, J. B. Roberts, Philadelphia; Schuylkill, W. T. Williams, Mt. Carmel; Snyder, A. M. Smith, Beaver Springs; Somerset, S. S. Good, Meyersdale; Susquehanna, C. A. Johnston, Hop Bottom; Venango, C. W. Coulter, Oil City; Warren,

O. S. Brown, Russell; Washington, Q. C. Farquhar, East Bethlehem; Westmoreland, J. S. Long, Circleville; York, J. C. Gobin, York.

THE USE OF THE OBSTETRICAL DEPARTMENT OF THE PHILADELPHIA HOSPITAL.—At a meeting of the Board of Charities and Correction, held January 12th, the committee appointed to consider the application of Dr. Hurst for permission to use the Obstetrical Department of the Philadelphia Hospital for the purpose of instruction to students of the University of Pennsylvania submitted an answer, in which they said they were fully aware of the importance of furnishing means for the education of physicians by the use of the hospital.

Against the assurance that the possibility of infection was excluded, they said there was a possibility that proper precautions might be disregarded.

They also stated that, if they felt bound to protect a corpse from examination in the cause of science, could they, with propriety, compel a living woman to submit to such exposure as is inevitable in the proposed scheme as the price of admission to a public hospital? They, therefore, declined the request, and put their answer on record for the information of their successors.

"A MAN came in here one day," said an apothecary, "and asked for a 'raw shell' powder. He meant a Rochelle powder. On another occasion a customer demanded a 'sidelight' powder. He got it. A lady came in once, and holding up a pint bottle, said: 'What will you charge to fill this with pneumonia?'"

PRESERVATION OF DEAD BODIES.—Although no useful object can be served by the artificial preservation of corpses, and though we are strongly of the opinion that the best thing that can happen to our tenement of clay, when it is no longer informed by the *divina particula auræ*, is for it to be resolved as speedily and inoffensively as possible into its constituent elements, yet the prevention of decomposition is a subject of the highest scientific interest, and knowledge of the means of effecting this might conceivably be useful to medical men. A French physician, Dr. Variot, has recently been giving attention to this subject, and he has discovered, or, to speak, we believe, more accurately, perfected a method of preserving dead bodies by galvanoplasty. To facilitate adherence of the metallic deposit he paints the skin with a concentrated solution of nitrate of silver, and reduces this with vapors of white phosphorus dissolved in sulphide of carbon, the skin being thus rendered dark and shiny. The body is then ready for the electric bath, which is served by a thermoelectric battery, giving a regular adherent deposit of copper if the current is properly regulated.

With a layer of $\frac{1}{2}$ to $\frac{3}{4}$ of a millimetre the envelope is solid enough to resist pressure or shock. Dr. Variot further incinerates the metallic mummy, leaving holes for the escape of gases. The corpse disappears, and a faithful image, or rather statue, remains. This method certainly seems superior from the æsthetic and sentimental, not less than from the sanitary, point of view to mummification; and if the old Roman fashion of adorning houses with the owner's ancestors should ever be revived, Dr. Variot's galvanoplastic *simulacra* would doubtless be found cheaper and more realistic, if, perhaps, less artistically precious, than a collection of "grandsires cut in alabaster" by an eminent sculptor.—*British Medical Journal*, January 10, 1891.

BOOK REVIEWS.

Diabetes, Lectures on. By ROBERT SAUNDBY, M.D., Edinburgh. 300 8vo pages; \$2.75. In press. E. B. Treat, New York.

International Medical Annual. E. B. Treat, publisher, New York. Ninth issue. In press.

Its corps of 37 editors—specialists in their respective departments, comprising the brightest and best American, English, and French authors—will vie with previous issues in making it even more popular and of more practical value to the medical profession.

We have the assurance of some of the best medical practitioners that the service rendered their profession by this Annual cannot be duplicated by any current annual or magazine, and that it is an absolute necessity to every physician who would keep abreast with the continuous progress of practical medical knowledge.

Its Index of New Remedies and Dictionary of New Treatment, epitomized in one ready reference volume at the low price of \$2.75, make it a desirable investment for the busy practitioner, student, and chemist.

The Patients' Record. For the Use of Physicians and Nurses. Compiled by AGNES S. BRENNAN. G. P. Putnam's Sons. 1890. Bds.

The trained nurse involves a daily record. Every physician has found the inconvenience of the reports written upon loose sheets of paper, which are so easily disarranged and generally carelessly kept, because not permanent. The present book of ruled and lined pages, with columns for different data, spaces for physicians' orders and remarks, and temperature charts, will be found just the thing to satisfy the wants of the particular physician and the intelli-

gent nurse, to say nothing of the patient and family, to whom such a record would be a curiosity.

Sexual Neurasthenia. By G. M. BEARD, M.D., and A. D. ROCKWELL, M.D. Third edition, enlarged; \$2.75. In press. E. B. Treat, New York.

Medical Diagnosis with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Disease. By J. M. DA COSTA, M.D., LL.D., Professor of Practice of Medicine and of Clinical Medicine at the Jefferson Medical College, Philadelphia; Physician to the Pennsylvania Hospital, etc. Illustrated with engravings on wood. Seventh edition, revised. J. B. Lippincott Co. 1890. 8vo, cloth, pp. 995.

Da Costa's *Diagnosis* is now a standard textbook, and, judging from the careful revision given to it each time it goes through the press, it bids fair to continue its honorable position among our necessary books of reference for years to come. The author, in the preface to the seventh edition, states that it is a pleasure to be able to record that a second edition of the German translation, by Dr. Engel and Dr. Posner, has appeared in Berlin; that a Russian translation has been issued; and that a French translation, by Dr. Laurent, is now in progress. In this pleasure we beg to share, since every Philadelphian should be proud that an indigenous literary production should be so honored. An analysis of a book so well known as this is superfluous; it is only permissible to state that new illustrations of bacteria, etc., have been introduced, and some new material, to accommodate which has necessitated condensation of other portions, the result being to make the work, as a whole, much more valuable than before. Although grown to be a good-sized book of nearly a thousand pages, it is not too large to be a convenient hand-book of diagnosis. We cannot expect such a work to be encyclopædic, but its readers would have not objected to a slight increase in size in order to include a few topics that do not appear at present, such as medicinal eruptions, and particularly the recognition of quinine as an occasional cause of purpura; the relation of bacterial infection to digestive disorders, and especially to so-called atonic dyspepsia, which are legitimate subjects for discussion from a diagnostic standpoint. But the literature of medicine is already so extensive that some omissions are absolutely necessary, and upon careful examination of this work the great industry and wide research of the author is manifested by the fact that it is remarkably complete within the limits it was designed to cover.

Eighth Annual Report of the New York Skin and Cancer Hospital.

We have received the Eighth Annual Report of the New York Skin and Cancer Hospital, as abstracted in the New York Tribune, December 25, 1890. There is this that we are curious about: It states that "the prize-fund to stimulate research in the alleviation or cure of cancer, originated by Mrs. Esther Herriman, has been increased to \$1000;" also, that "282 patients were discharged from the hospital, of whom 110 had recovered or were cured," which is about 40 per cent. of cures! Now, if such a large per cent. of cures of cancer is attained in this hospital, what is the need for more research? Or, if this hospital is curing 40 per cent. of its cases of cancer, why not stir up the whole world to do it honor? If Dr. Koch, who says that he has not cured a case of consumption, but hopes to do it, is worthy of the backing of the great German nation and of the highest honors of the age, and if it is a greater thing to cure than to hope to cure, then is not the world stultifying itself in not lavishing higher honors on this cancer hospital than Dr. Koch has received? We wish the term "had recovered or were cured" were more definitely explained; for, if we know ourselves, we will give higher honor to those who cure "incurable" diseases than those who only hope to cure them.

A B C Medical Diary and Visiting-List, with which is combined the A B C Materia Medica and numerous tables prepared especially for ready reference by medical men. Charles Letts & Co., 3 Royal Exchange, London. 1891.

This handsome and conveniently arranged book, of a size to fit the pocket, contains a fund of useful information. The A B C Materia Medica is an excellent, brief description of drugs, their preparations, doses, and uses. In addition, a table of doses, including many new remedies, is given. A useful list is that of the tabloids, prepared by the great English manufacturing chemists, Burroughs, Wellcome & Co. A section on infant feeding gives the method of peptonizing milk for babes of different ages, and is followed by hints concerning infant feeding at different months.

The Physicians' Hand-Book for 1891. By ALBERT D. ELMER, M.D. New York: G. P. Putnam's Sons. 1891.

This book has now been published for thirty-four years and comes forth thoroughly revised. Its form is convenient. In addition to a record for practice, it contains a summary of symptomatology and treatment of disease and of poisoning, sections on examination of the urine and on prescription-writing, a list of remedial agents, etc.

The Physicians' Visiting-List for 1891. P. Blakiston & Co., Philadelphia.

The Physicians' Visiting-List for 1891 (formerly Lindsay & Blakiston's), with leather cover, pocket and pencil, with introductory matter arranged for ready reference, covering poisons and antidotes, new remedies, doses, incompatibles, disinfectants, examination of urine, etc., is the most compact, complete, and convenient pocket visiting-list that has come to us this season.

A Clinical Study of Diseases of the Kidneys, including Systematic Chemical Examination of Urine for Clinical Purposes, Systematic Microscopical Examination of Urinary Sediments, Systematic Application of Urinary Analysis to Diagnosis, Prognosis, and Treatment. By CLIFFORD MITCHELL, A.M., M.D. Publisher, W. T. Keener, Chicago, 96 Washington Street. 1890.

The author of this work has given much attention to the examination of the urine for clinical purposes. The attention is directed especially to the difference between normal urine and the secretion when it contains elements of disease. The book not only contains much information in this respect, but even more concerning the treatment of diseases of these important organs by the proper diet. The selection of the food in many diseases of the kidneys is of the greatest value, in order to combat against the destructive action of the morbid process. Especially is this the case in diabetics. The publisher has printed and bound the volume in a most substantial and handsome manner.

The Medical Bulletin Visiting List, or Physicians' Call Record. F. A. Davis, Philadelphia and London, 1891.

This useful publication contains a great deal of condensed information, and is excellently adapted to the purpose for which it is intended. It is so arranged that one entry of a patient's name suffices for a month, while a column refers to the ledger page into which the account is posted.

Text-Book of Materia Medica for Nurses. Compiled by LAVINIA L. DOCK, Graduate of Bellevue Training-School for Nurses; Superintendent of Grace Memorial House. Published by G. P. Putnam's Sons. New York: 27 West Twenty-third Street. London: 27 King William Street, Strand. The Knickerbocker Press, 1890.

The writer of this little book has managed to condense much useful information in a very small space. Attention has justly been given to the treatment of cases of poisoning, and many good hints are given which will be of service. The authoress has also given some good points to nurses in the administration of drugs.

COMMERCIAL NEWS.

WHY send your consumptive patients away to die in some strange land? Why not make one more rational effort to save them. Read the advertisement of the McArthur Hypophosphite Co., on page 2, and give their preparation a faithful, thorough trial.

SEA-SIDE HOSPITAL.

Atlantic City, with its large, permanent, and immense transient population, is without a hospital! Advertiser will rent well-located building, long lease and moderate rental, to right party. Address, for particulars, "Owner," care MEDICAL BULLETIN, Philadelphia, Pa.

G. W. SEATON, M.D., Hall, Ind., says: I used Celerina in a case of nervous prostration with such encouraging results that I have been induced to give it a trial in a number of other instances, particularly in a case of sexual impotency, and the results have been satisfactory in every instance. I regard Celerina as an excellent nerve-stimulant and tonic, and well worthy of the extensive trial the profession seems to be giving it.

GORORRHŒA.

R. S. H. Kennedy's Ext. Pinus	
Canadensis, ...	2 ounces.
Glycerin, ...	1 ounce.
Port wine, ...	2 ounces.
Hydrastis sulph., . . .	4 grains.
Aquæ destill., ...	2 ounces.

I HAVE used Peacock's Bromides in my practice with great success; in convulsions in children when teething it acts like a charm. Used it in sick headache, and it has given better satisfaction than anything that I have ever used.

W. R. HIX, M.D.

DON-JU-ANN, IND.

NEW CATALOGUE.

Revised price list and complete descriptive catalogue of standard Electrical Instruments for physicians' use now ready. Address (free to physicians), "Galvano-Faradic Manufacturing Company," 300 Fourth Avenue, New York.

FREE.

A handsome Calendar for 1891 is being issued free by the McArthur Hypophosphite Company, Boston, Mass. Drop them a postal containing your address. Mention the MEDICAL BULLETIN, and get one by return mail.

PETROLEUM AND CODLIVER-OIL.

An elegant preparation bearing the name "Morrhulene," composed of petroleum and codliver-oil, is being put up by E. H. Fienhold, N. W. Corner Thirteenth and Morris Streets, Philadelphia, Pa. Dr. H. E. Aldrich, Philadelphia, says of it: "I have been using Morrhulene for about one year, and am depending almost entirely upon this preparation when a hydro-carbon is indicated." . . . Further particulars will be cheerfully furnished on application to the above address.

MALTINE.

From Hugo Summa, A.M., M.D., Professor of Physiology and Director of the Biological Laboratory, Marion-Sims College of Medicine.

ST. LOUIS, MO., MAY 6, 1890.

The Maltine Manufacturing Co.

GENTLEMEN: Of the samples of your "Maltine with Pepsin and Pancreatine," I have tested four at a bedside and two experimentally. I found that, although a combination of pepsin and pancreatine appears, as it were, unphysiological, very satisfactory results are obtained from the use of the preparation. I fully concur in the opinions given to me personally by Dr. I. N. Love and other medical brethren of this city, but I am, nevertheless, of the opinion that the efficacy of the preparation is mostly due to the presence of pepsin.

VICKSBURG.

VICKSBURG, MISS., February 15, 1890.

I have no hesitation in saying of "Hayden's Viburnum Compound" that it is all that it claims to be. It can be safely used in cases of threatened abortion, and I have found it very serviceable in the treatment of various forms of dysmenorrhœa.

T. T. BEALL, M.D.